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ABSTRACT

This report discusses the importance of nutrition education in the elementary and secondary schools as it relates to (1) improving eating habits, (2) reducing food waste, and (3) aiding or reducing the need for other federally supported nutrition education activities. Also discussed is the status of nutrition education in the schools and what the Federal Government can do to help improve it. Appendices include lists of GAO publications on various federal food and nutrition efforts and on federally funded nutrition education and related projects; a description of the Nutrition Education Training activities in California, Illinois, New York, and Texas; and a copy of a letter issued to GAO from the Assistant Secretary for Food and Consumer Services. (MP)

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BY THE U.S. GENERAL ACCOUNTING OFFICE

# Report To The Secretary Of Agriculture

## What Can Be Done To Improve Nutrition Education Efforts In The Schools?

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
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Effective nutrition education in elementary and secondary schools can help people learn to make wise food choices. It can also complement and/or potentially reduce the need for many federally related nutrition activities.

The Department of Agriculture has been the primary Federal agency involved with nutrition education in the schools. GAO found that:

--Information on federally supported nutrition education efforts has not been gathered, assessed, and shared with State and local education agencies.

--Sufficient data was not available on the largest Federal nutrition education program's effects on its participants.

--Coordination of nutrition education efforts directed at school children has been limited.

--Not enough teachers were prepared for nutrition instruction.

GAO identifies ways to deal with these problems and improve nutrition education efforts in schools.

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MAY 25, 1982

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

B-207254

The Honorable John R. Block
The Secretary of Agriculture

Dear Mr. Secretary:

This report discusses the importance of nutrition education in the schools as it relates to (1) improving eating habits, which results in a better life, (2) reducing food waste, and (3) aiding or reducing the need for other federally supported nutrition education activities. The report also discusses the status of nutrition education in the schools and what the Federal Government can do to help improve it.

The report contains recommendations to you on pages 24, 29, 32, and 34. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the above committees; the Senate Committee on Agriculture, Nutrition, and Forestry; the House Committee on Agriculture; the House Committee on Education and Labor; the Director, Office of Management and Budget; the Secretaries of Education and Health and Human Services; and other interested parties.

Sincerely yours,

Henry Eschwege

Henry Eschwege
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE SECRETARY OF
AGRICULTURE

# WHAT CAN BE DONE TO IMPROVE NUTRITION EDUCATION EFFORTS IN THE SCHOOLS?

## D I G E S T


Many experts agree that educating schoolchildren is the most effective way to develop a nutritionally informed population because these children are an impressionable and captive audience.

In addition to improving eating habits, nutrition education also has the potential for reducing food waste in Federal feeding programs and in the home. During times of high inflation, wise food decisions can help consumers stretch their food budgets. Nutrition education could also increase consumers' use of nutrition information on food labels and reduce the Federal Government's need to disseminate nutrition information to the public and provide nutrition education programs outside the schools to specific target groups. (See pp. 4 to 10.)

Although Federal efforts supporting nutrition education in the schools have increased during the last decade, improvements are needed to enhance the effectiveness of nutrition education programs. The U.S. Department of Agriculture (USDA), through its Nutrition Education and Training Program, leads the Federal nutrition education efforts in the schools. Although the U.S. Department of Education is the other primary Federal agency involved, no Education program deals exclusively with nutrition education in the schools. According to Education officials, nutrition is almost always a low priority and/or an insignificant part of the Department's programs.


## GATHERING, ASSESSING, AND DISSEMINATING INFORMATION ON NUTRITION EDUCATION EFFORTS

Neither USDA nor the Department of Education has gathered information on federally funded nutrition education projects, assessed that information using sound criteria to establish its credibility for potential users, and disseminated the results to State and local education agencies.

USDA claimed it lacked Nutrition Education and Training Program funds to reproduce and disseminate information and has no criteria to assess the quality of nutrition education information. Consequently, the time and moneys used by State and local education agencies to independently develop nutrition education information could be used ineffectively.

Because both USDA and the Department of Education already have systems for gathering and disseminating information, no new mechanism should be needed. Potential resources also exist through provisions in the National School Lunch Act for evaluating nutrition education materials. (See pp. 20 to 25.)

Recommendations

Because USDA has been the leading Federal agency supporting nutrition education in the schools, GAO recommends that the Secretary of Agriculture

--convene a panel of experts to develop guidelines for assessing the quality of nutrition education information in the schools,

--share these guidelines with interested State and local education officials,

--gather and assess nutrition education information on projects meeting the guidelines, and

--provide State and local education agencies and other interested parties access to the evaluation results and the nutrition education information that meets the guidelines. (See p. 24.)

DEVELOPING NUTRITION EDUCATION ASSESSMENT TOOLS

USDA requires participating States to evaluate the Nutrition Education and Training Program's effectiveness and specify objectives based on participants' needs. However, three of the four States GAO visited did not evaluate their program's effectiveness or specify objectives on participants' knowledge, attitudes, and/or behavior. This occurred because USDA provided inadequate guidance and training to States on evaluations and on specifying objectives and States had difficulty in identifying evaluation

materials. Consequently, neither USDA nor the States can tell how effective the program is or has been to participants. (See pp. 25 to 29.)

Recommendations

GAO recommends that the Secretary of Agriculture aid interested States by developing

--general program goals and comprehensive guidelines on how to specify program objectives for students, teachers, and food service personnel in the areas of knowledge, attitudes, and/or behavior and

--evaluation guidelines for measuring changes in participants' knowledge, attitudes, and/or behavior. (See p. 29.)

COORDINATING NUTRITION EDUCATION EFFORTS

Coordination efforts are weak at all levels: between USDA and Education, within USDA's Nutrition Education and Training Program, and between the Nutrition Education and Training Program and private sector groups such as the dairy councils. Coordinating school-related nutrition education efforts is important to (1) prevent unnecessary duplication of effort, (2) maximize the use of scarce resources, and (3) identify and share results of nutrition education efforts with others. (See pp. 30 to 32.)

Recommendation

GAO recommends that the Secretary of Agriculture work toward improved coordination of nutrition education activities at both Federal and non-Federal levels. This coordination should include identifying and sharing with interested State and local education agencies the extent and results of successful nutrition education activities and developing a unified strategy to reach as many students as possible. (See p. 32.)

OTHER IMPROVEMENTS ARE NEEDED

Many teachers are not prepared to teach nutrition upon entering the teaching profession. For example, few States require teachers to take nutrition courses when preparing for an elementary or a secondary school teaching certificate in subjects such as health, home economics, and science. Therefore, teachers must rely on

sporadic inservice training in nutrition to fill this need. Because the inservice training is sporadic, the scope and quality of it are unknown. (See pp. 32 to 34.)

Recommendation

GAO recommends that the Secretary of Agriculture discuss with State education agencies what approaches might be taken to help ensure that teachers have the basic skills needed to teach nutrition. The discussions should address the possibility of requiring nutrition education for certain types of new teachers and additional training where necessary for certain types of current teachers. (See p. 34.)

AGENCY COMMENTS AND GAO EVALUATION

USDA generally agreed with GAO's characterization of nutrition education in schools but believed that the report supports Federal intrusion into the State and local nutrition education curriculum process. GAO's report does not call for mandating a nutrition education curriculum. Further, it is not GAO's intent to suggest that USDA dictate what State and local education agencies can and cannot do. However, many individuals involved in USDA's Nutrition Education and Training Program were experiencing difficulties in identifying useful and relevant nutrition education materials, assessing program needs, and evaluating program effectiveness. By carrying out GAO's recommendations, USDA can help those States and local education entities that want assistance. The States would still have flexibility in designing a program to their needs, resources, and priorities. (See p. 34.)

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GAO reviewed nutrition education in the schools to (1) determine its importance to Americans and to the Federal Government, (2) determine the extent of the Federal Government's involvement in it, and (3) identify ways to improve the Federal Government's effectiveness in this area. (See p. 2.)

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## ABBREVIATIONS

| | |
|---|---|
| ERIC | Educational Resources Information Center |
| ESEA | Elementary and Secondary Education Act |
| GAO | General Accounting Office |
| NDN | National Diffusion Network |
| NET | Nutrition Education and Training Program |
| USDA | U.S. Department of Agriculture |

# CHAPTER 1

## INTRODUCTION

Education about food and nutrition can contribute to a better quality of life and is particularly important to children. A child's eating and learning environments help form lifelong eating habits. These environments can influence whether a child will

--try new foods;

--eat breakfast regularly;

--enjoy a variety of foods such as milk, fruits, and vegetables; or

--frequently eat foods high in sugar and low in essential nutrients.

## NUTRITION EDUCATION

According to the National Nutrition Consortium: 1/

> "Nutrition education is the process by which individuals gain the understanding, skills and motivation necessary to promote and protect their nutritional well-being through their food choices * * *. More specifically, it is aimed at a general improvement of nutritional status through promotion of adequate food habits, elimination of unsatisfactory dietary practices, introduction of better food hygiene, and efficient use of food resources * * *." 2/

Although no generally accepted definition of nutrition education exists, one of its commonly cited objectives is to promote optimum health through food and thus contribute to maximizing one's physical, social, and economic potential.

## RESPONSIBILITY FOR NUTRITION EDUCATION

Many groups make decisions relating to education, including teachers' organizations, local school boards, parents, State departments of education, State legislatures, and the Federal Government.

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1/The National Nutrition Consortium is a nonprofit corporation that represents the interests of five professional societies and five liaison organizations concerned with various aspects of food, nutrition, and health.

2/Statement of Nutrition Education Policy (Washington, D.C.: National Nutrition Consortium, Inc., 1980), p. 2.

The responsibility for various aspects of nutrition education generally follows the traditional lines for education. Several government agencies, as well as private sector entities, such as the National Dairy Council, contribute toward nutrition education in the schools. The U.S. Department of Agriculture (USDA) is the leading Federal agency supporting nutrition through its Nutrition Education and Training (NET) Program. The U.S. Department of Education also administers several programs, such as the Consumer and Homemaking Education and Follow Through Programs, which include or can include nutrition education. State and local entities generally determine the role nutrition education plays in these Education programs. In addition, the U.S. Department of Health and Human Services administers the Head Start Program which also includes nutrition education.

## OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of this review were to (1) examine the importance of nutrition education in the elementary and secondary schools 1/ to Americans and the Federal Government, (2) determine the extent of Federal involvement in nutrition education, and (3) identify areas where improvements could be made. We made our review in accordance with our current "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions."

We obtained data relating to nutrition education in the schools from Federal agencies, State and local education agencies, and nongovernment entities. Our work involving the public sector included gathering detailed information on federally sponsored and/or administered programs and activities for fiscal year 1980. To do this, we mainly used an inventory of Federal food, nutrition, and agriculture programs prepared and maintained by USDA. We also interviewed officials involved in federally supported nutrition education activities.

Because USDA leads the Federal efforts to support nutrition education in schools, we focused on its activities. We made our review at its Food and Nutrition Service headquarters in Washington, D.C.; four of the Service's regional offices--Chicago, Illinois; Dallas, Texas; Robbinsville, New Jersey; and San Francisco, California; and four States--California, Illinois, New York, and Texas. Our review included (1) obtaining historical and legislative information on USDA's past and present efforts to support nutrition education activities in elementary and secondary schools, (2) examining a USDA-funded study on the status of NET activities by Abt Associates, and (3) reviewing State NET program plans, evaluation data, and other pertinent documents. We also interviewed many Federal and State officials involved in administering programs that either include or could include nutrition

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1/We defined elementary and secondary schools as being preschool through grade 12.

education. In selected States, we also interviewed local education officials, including food service personnel, teachers, and parents involved in the NET program.

We also obtained information on the Department of Health and Human Services' Head Start Program and 16 Education programs which can involve nutrition education. In addition, we interviewed State education officials in the four States and obtained information on Education's nutrition education activities. Although we obtained information on Head Start and 16 Education programs, we did not determine how the needs of these program participants are assessed or how program results are evaluated because nutrition education is such a low priority in most of these programs. Consequently, neither Education nor the Department of Health and Human Services is included in the report section on developing nutrition education assessment tools. (See pp. 25 to 29.)

Furthermore, we (1) interviewed officials from the National Dairy Council and the Dairy Council of California, (2) attended USDA's National NET Coordinators Conference, its NET Regional Directors Conference, and its Western Regional NET Coordinators Conference and met with conference participants, and (3) made a literature search of nutrition education activities in the schools.

We visited California, Illinois, New York, and Texas because they are States with (1) the largest amount of NET funding for fiscal year 1980, (2) different geographic locations, and (3) different USDA regional administering offices. The problems noted in the four States and local projects we visited could be shared by many other States and projects; however, our findings and conclusions should not necessarily be interpreted as being typical of all States and projects.

This report cites statistical information from several sources. For example, we cite USDA-funded studies which report food waste reductions resulting from nutrition education. We did not, however, review the contents of the various studies, the methodologies used, or the accuracy of the reported results.

## CHAPTER 2

## WHY NUTRITION EDUCATION IN THE SCHOOLS IS IMPORTANT

Proper education in elementary and secondary school should provide most individuals with the basic skills needed to function throughout life. Likewise, proper nutrition education should enable each individual to make wise food decisions throughout life. During times of high inflation, wise food decisions are especially important because they help consumers get the most out of their food budgets. Such decisions also could help reduce the incidence of nutrition-related diseases such as diabetes and heart disease and reduce the billions of dollars worth of food wasted annually. Further, nutrition education could benefit other federally supported nutrition education activities, such as increasing food label use, reducing the need to disseminate nutrition information to the public, and reducing the need to provide nutrition education outside the schools to specific target groups.

Many experts agree that the most effective way to develop a nutritionally informed population is to educate school-age children because they are an impressionable and captive audience. As current and future food buyers, children must acquire knowledge to learn how to make wise food and nutrition decisions. According to a panel of the White House Conference on Food, Nutrition, and Health, 1/ these decisions are determined by a person's (1) physiological makeup and physical activities, (2) knowledge of the nutrient composition of plants, animals, and formulated foods in the person's environment, (3) ability to distinguish between truth and distortion concerning foods, nutrition, and health, (4) personal likes and cultural background, and (5) ability to use available resources.

Dr. George Briggs, past Chairman of the White House Conference Panel on Nutrition Teaching in Elementary and High Schools, has said that nutrition education is "the best hope we have that the current and costly cycle of poor eating habits can be broken." Many others have also recommended improving nutrition education in elementary and secondary schools to overcome poor eating habits. These recommendations have come from such sources as the White House Conference on Food, Nutrition and Health; the American Dietetic Association; the Federal Government; the National Advisory Council on Child Nutrition; the Society for Nutrition Education; and several panels testifying before the former Senate Select Committee on Nutrition and Human Needs.

According to a July 1974 USDA report, individuals must develop proper dietary habits or else the Nation will establish

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1/White House Conference on Food, Nutrition and Health, Final Report, Washington, D.C., Dec. 24, 1969, p. 150.

the foundation for a continuing nutritional problem of national importance. 1/ In addition, many nutrition experts indicate that nutrition education needs greater emphasis in this country. Some of the potential benefits of nutrition education in the schools include

--improved understanding of eating,

--reduced food waste, and

--increased effectiveness of other Federal nutrition activities.

IMPROVED UNDERSTANDING OF EATING

Surveys indicate that consumers do not know enough about nutrition and that many Americans at all socioeconomic levels have inadequate eating habits. One authority has even branded us as a "Nation of nutritional illiterates" because Americans' education has not kept pace with the expanding nutritional data base. 2/ Nutrition education is necessary because (1) we must teach each new generation to use the food supply sensibly and (2) nutrition is a "new" science whose data base is constantly expanding. 3/

Many consumers find it increasingly difficult to decide what is an adequate diet. Some of this difficulty occurs because of the thousands of food items consumers have to choose from and the growing desire to select foods that promote good health. Many other factors also influence Americans' food-purchasing decisions, including cost, taste, socioeconomic status, culture, ethnicity, family, peers, school, advertising, physicians, increased urbanization, and the Federal Government.

Improper diet, including consuming too much food, has been identified as a contributing factor to heart disease, cancer, high blood pressure, diabetes, tooth decay, and liver disease.

A critical step toward maintaining and improving one's diet is selecting foods that provide a balance between nutrients and energy. For example, selecting high-caloried food consistently and beyond one's energy needs can result in obesity. An estimated

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1/"Comprehensive Study of Child Nutrition Programs - July 1974," submitted by USDA to the Congress pursuant to Public Law 93-150.

2/White, P.L., "Why All the Fuss Over Nutrition Education?" Journal of Nutrition Education, 8(2) (Apr.-June 1976), p. 54.

3/Whitehead, F.E., "Nutrition Education Research," World Review of Nutrition of Dietetics, 17 (1973), pp. 91-149.

20 percent of all adults are so overweight that it may interfere with optimal health and longevity; after age 40, the figure jumps to 35 percent. An estimated 10 to 40 percent of all schoolchildren are also overweight. Current scientific opinions attribute much of the obesity to a certain lifestyle, eating habits, reduced physical activity, or heredity.

The Federal Government must also deal with the many factors that affect food and nutrition decisions. Each year it spends billions of dollars to provide food or food-related assistance. Federal nutrition efforts include (1) regulating food processing, advertising, and labeling, (2) conducting nutrition research, (3) disseminating nutrition information and sponsoring nutrition education programs, and (4) conducting nutrition/health surveys of the American people. We have discussed many of these efforts in previous reports. (See app. I.)

REDUCED FOOD WASTE

According to our 1977 report on food waste, 1/ about 20 percent of all food produced in the United States in 1974 was lost or wasted--about 137 million tons valued at $31 billion. These losses, which can affect food availability and increase its cost, occurred at all stages, from harvest through consumption. The largest losses, more than half, occurred after consumers, both institutional and household, purchased the food. Our report cited the lack of nutrition education as a primary cause of food loss at these levels.

For example, almost three-fourths of the food loss reported at the consumption level occurred in the household. A 2-year food waste study in Tucson, Arizona, by the University of Arizona, showed that in the first year, losses were 12 percent of household food purchases, while in the second year, losses were 10.8 percent. The biggest food wasters were middle-income families. The study also indicated that households with a strong knowledge of food safety had less waste. Instruction on food safety can be an integral part of nutrition education.

The remaining food loss, almost one-fourth, occurred in institutions, including waste from USDA's food assistance programs. For USDA programs, the estimated food loss was valued at $267.5 million for fiscal year 1977. These programs included the school lunch, school breakfast, summer feeding, special milk, child care food, elderly feeding, and food distribution programs.

Some of our prior reports have identified the lack of nutrition education in the schools as a primary cause of school lunch

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1/"Food Waste: An Opportunity To Improve Resource Use" (CED-77-118, Sept. 16, 1977).

food waste. 1/ The Congress, when enacting the NET program in 1977, stated that

> "* * * the lack of understanding of the principles of good nutrition and their relationship to health can contribute to a child's rejection of highly nutritious foods and consequent plate [food] waste in school food service operations * * *."

Other causes of food loss include the lunchroom atmosphere and conditions, the type of food served, and food preparation methods.

USDA has funded several studies that showed that nutrition education affects food waste. A few examples follow. (Others are in apps. II and III.)

--In California teachers, parents, and nutrition specialists participated in a nutrition project for primary grade students. A comparison of students' pretest and post-test data showed an 18-percent decrease in lunchroom food waste and a 42-percent increase in nutrition knowledge.

--In Nebraska selected schools participated in a nutrition education project to assess its influence on school lunch participation, food acceptance, and food waste. Waste decreased by 20 percent or more for seven different food items.

--In West Virginia a nutrition education program for elementary schoolchildren was developed and implemented. Results showed that waste for most foods was lower among students in the experimental schools than in the comparison schools.

## NUTRITION ACTIVITIES OUTSIDE THE SCHOOLS

Each year the Federal Government spends millions of dollars to regulate food advertising and labeling, disseminate nutrition material, and sponsor nutrition education programs for people not in school. However, an effective nutrition education program in the schools could be one way to reduce the need for these activities or improve their effectiveness. Following are examples of these activities and how an effective nutrition education program in the schools could affect their usefulness.

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1/"The Impact of Federal Commodity Donations on the School Lunch Program" (CED-77-32, Jan. 31, 1977), which devoted considerable attention to the food waste problem, and "The National School Lunch Program--Is It Working?" (PAD-77-6, July 26, 1977), which also discussed the food waste problem.

## Food advertising

Nutritional ignorance, combined with the substantial influence of food industry advertising, can adversely affect Americans' eating habits. For example, one children's rights organization reported that the average child could see from 8,500 to 13,000 food and beverage television commercials a year. 1/ Consequently, by adulthood, the child could be more interested in the sizzle of a steak than in its nutritional content.

The Federal Trade Commission has primary responsibility for regulating food advertising. Through its food and nutrition advertising activities, the Commission tries to prevent deception and increase the reliability of advertisements so consumers can make informed choices.

A Commission official estimated that the Commission spent $240,000 in fiscal year 1980 on consumer protection activities related to food and nutrition. Although the Commission spends limited funds to regulate food and nutrition advertising, one way of reducing the need for the Commission's role in this area is to improve the public's nutritional knowledge at an early age.

## Nutrition labeling

Except for meat and poultry labeling which USDA regulates, most food and nutrition labeling is regulated by the Food and Drug Administration. Nutrition labeling is supposed to give consumers information on the nutrient content of foods, enabling them to make informed choices from the large numbers of processed foods.

In March 1973 the Administration established regulations requiring detailed nutritional information on labels of fortified foods or foods for which nutritional claims are made. For such labeling to succeed, consumers must possess adequate nutritional knowledge, and labels must contain sufficient nutritional information. However, nutritional labeling has not totally succeeded. A leading food association has identified the lack of a proper education program for improving consumer understanding as a cause for the limited success of nutritional labeling. According to a 1978 Administration survey, less than 65 percent of the shoppers sampled claimed to have used label nutritional information. Nutrition education in the schools, which should include how to use the nutrition label, could be one way of helping shoppers make better use of the label.

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1/The Council on Children, Media, and Merchandising is a nonprofit organization that attempts to analyze children's rights in the marketplace.

## Nutrition information dissemination

The Federal Government, through numerous agencies and programs, provides nutrition information to consumers. We have identified over 125 programs in 10 agencies which involved nutrition information activities. 1/ In most agencies, however, nutrition education and information is only a small part of their overall nutrition activities. USDA and the Department of Health and Human Services are the two main agencies disseminating nutrition information. They provide hundreds of different nutrition publications to the public, including information on basic nutrition and on food buying, preparation, safety, selection, storage, and labeling. Effective nutrition education in the schools could help reduce the extensive need for Federal involvement in publishing nutrition materials.

## Other nutrition education programs

Several Federal programs that provide nutrition education information outside the school could benefit from an effective nutrition education program in the schools. For example, within USDA the nutrition education objective of at least five programs is to provide nutrition and/or nutrition-related information to various target groups. (See p. 10.) An effective nutrition education program in the schools could reduce the long-term need for such objectives.

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1/"Informing the Public About Food--A Strategy Is Needed for Improving Communication" (CED-82-12, Jan. 8, 1982).

## USDA Programs That Provide Nutrition Education/Information Outside the Schools

| Program | Basic objective | Primary target group | Method of delivery | Types of tools and materials used in nutrition education/information activities |
|---|---|---|---|---|
| Expanded Food and Nutrition Education Program | | | | |
| Adult | Provide guidance to low-income families on improving diet and health. | Low-income homemakers. | Paraprofessional aides provide individual instruction in the home and in small groups. | Printed and audiovisual materials on diet and health and food buying, care, and preparation. |
| Youth | Provide guidance to youth from low-income families on improving diet and health. | Youths ages 9 to 19 from low-income families. | Paraprofessionals and volunteers provide instruction for interested groups at day and overnight camps and clubs. | Printed and audiovisual materials on diet and health and food buying, care, and preparation. |
| Extension General Food and Nutrition | Provide information on diet and health. | General public. | Paraprofessionals and trained individuals provide instruction through homemaker and urban gardening clubs and through other groups. | Printed materials, radio, and television on diet and health and on food buying, care, and preparation. |
| Extension 4-H Food and Nutrition | Provide information on diet and health. | Youths ages 9 to 19. | Professionals and trained individuals provide instruction through 4-H clubs; projects, schools, and communities; 4-H special interest groups; day and overnight camps; mass media; and television. | Printed materials, radio, and televirion on diet and health and on food buying, care, and preparation. |
| Food Stamp | Provide information on nutrition. | Low-income households. | Food Stamp offices provide printed materials and posters on nutrition. | Printed materials and posters on diet and health and menus. |
| Special Supplemental Food Program for Women, Infants, and Children | Provide nutritional guidance to women, infants, and children considered to be at risk. | Low-income, pregnant, postpartum, and lactating women; infants and children under age 5. | Professionals and paraprofessionals provide one-to-one counseling and group counseling. | Printed and audiovisual materials on diet and health, supplemental foods to achieve adequate diet, and the benefits of breastfeeding. |

## CHAPTER 3

## STATUS OF NUTRITION EDUCATION IN THE SCHOOLS AND NEEDED IMPROVEMENTS

In recent years the public and private sectors have increasingly supported nutrition education in the schools. Although the support has increased and the status of nutrition education has improved, our work at the Federal level and in four States indicates that nutrition education remains basically unstructured, sporadic, and a low priority. In each of the four States, officials responsible for nutrition education told us that teachers' knowledge of and interest in nutrition largely determine its importance in the classroom.

We found, among other things, that:

--USDA and Education made limited efforts to provide information on the results of federally funded nutrition education efforts to State and local education agencies. Consequently, many of these agencies found it difficult to locate successful nutrition education projects and materials to help them implement their nutrition education programs.

--Three of the four State education agencies we visited had difficulty identifying their specific nutrition education needs and developing an evaluation system. Therefore, assessing the results of their nutrition education activities is a major problem.

--Limited coordination existed among organizations supporting nutrition education in the schools. Coordination among organizations is lacking in (1) identifying and sharing the extent and results of successful nutrition education activities, thus preventing unnecessary overlap, and (2) developing a unified strategy to reach as many students as possible needing nutrition education.

--Only a few States required elementary school teachers to take nutrition courses to qualify for a general teaching certificate. Consequently, many teachers are not prepared to teach nutrition and must rely on the availability of inservice training to fill the gap. In addition, several States identified providing inservice training as a problem.

### FEDERAL EFFORTS TO SUPPORT NUTRITION EDUCATION

USDA and, to a lesser extent, Education are the primary Federal agencies supporting nutrition education in the elementary and secondary schools. One reason the Federal Government recognizes the importance of nutrition education is the increasing

public interest in maintaining good health through a better understanding of the relationship between diet and health.

Department of Agriculture

Three congressional actions involving USDA's administration of the child nutrition programs are responsible for much of the improved nutrition education in the schools.

--In 1970 Public Law 91-248 amended the National School Lunch Act and added section 6(a)(3). This legislation allowed USDA to spend up to 1 percent of the funds provided for the child nutrition programs (except the special milk program) to supplement the nutritional benefits of these programs through nutritional training and education and surveys and studies. We identified 31 nutrition education-related projects completed during fiscal years 1972 through 1977 for over $2 million. (See app. II for a summary of these projects.)

--Effective October 1975, section 18 of the Child Nutrition Act authorized USDA to make available up to $1 million annually to State education agencies for "conducting experimental and demonstration projects to teach school children the nutritional value of foods and the relationship of nutrition to human health." We identified six nutrition education-related projects awarded in fiscal years 1978 and 1979 for about $621,000. (See app. III for a summary of these projects.)

--In November 1977 the Nutrition Education and Training Program was established under section 19 of the Child Nutrition Act. This legislation authorized USDA to formulate and carry out a nutrition education and information program through grants to State education agencies. About $87 million was budgeted for grants to States and territories for fiscal years 1978 through 1981.

For additional information on these three congressional actions, see appendix IV.

Even though sections 6 and 18 moneys can still be used to make grants to States for school nutrition education-related projects, no new projects to States have been funded by USDA for sections 6 and 18 since fiscal years 1977 and 1979, respectively. According to a NET official, USDA did not think it was necessary to use sections 6 and 18 moneys because NET funding provided much larger sums for nutrition education-related projects in the schools.

Because NET represents the largest federally supported nutrition education program directed at schools, a brief summary of the program and its operations follows.

Nutrition Education and Training Program

The Congress identified in the NET legislation the following needs for this program.

> "* * * (1) the proper nutrition of the Nation's children is a matter of highest priority;
>
> (2) the lack of understanding of the principles of good nutrition and their relationship to health can contribute to a child's rejection of highly nutritious foods and consequent plate waste in school food service operations;
>
> (3) many school food service personnel have not had adequate training in food service management skills and principles, and many teachers and school food service operators have not had adequate training in the fundamentals of nutrition or how to convey this information so as to motivate children to practice sound eating habits;
>
> (4) parents exert a significant influence on children in the development of nutritional habits and lack of nutritional knowledge on the part of parents can have detrimental effects on children's nutritional development; and
>
> (5) there is a need to create opportunities for children to learn about the importance of the principles of good nutrition in their daily lives and how these principles are applied in the school cafeteria."

To help with these needs, State education agencies receive grants to develop comprehensive nutrition education and information programs and to encourage the dissemination of nutrition information to children. NET also provides for nutritional training for teachers and food service personnel.

NET legislation requires each participating State to appoint a nutrition education specialist as State coordinator to (1) assess nutrition education needs, (2) prepare a comprehensive State plan (including provision for reaching all students in the State), and (3) coordinate programs supported by NET grants with other federally and State-supported nutrition education programs. State plans must be approved by the Secretary of Agriculture.

Each State and territory is eligible for a grant based on the number of children enrolled in schools or institutions within that State or territory; no State or territory may receive less than $75,000. In fiscal years 1978 and 1979, the funding level was 50 cents per child. However, for 1980 and 1981 it was 40 and 31 cents per child, respectively, because of Federal funding limitations.

In fiscal year 1980 most States and territories participated in NET. USDA data showed that about 5 million students, 200,000 teachers, and 100,000 food service personnel participated that year. However, the State coordinators in the four States we visited said these statistics did not reflect the amount or quality of participants' nutrition education experience. For example, a student participating in a 1-day nutrition fair was counted the same as a student participating in a 6-week classroom experience.

The NET legislation requires States to assess nutrition education needs for directing the States' programs. Some problems needing attention that were identified by States surveyed in a USDA-funded NET study 1/ included the following.

--Many States reported children consuming insufficient amounts of milk or dairy products, fruits, and vegetables.

--Thirty-five States cited student obesity as a nutrition-related health problem.

--Twenty-seven States cited a high incidence of tooth decay among children as a nutrition-related health problem.

--Many States cited vitamin deficiencies, especially vitamins A and C, as a nutrition-related health problem.

Even though a number of changes are needed to improve NET's effectiveness, many nutritionists and educators agreed that NET has the potential for improving children's nutritional awareness. NET represents the first nationwide effort to involve students, teachers, food service personnel, parents, and communities in a program to provide nutrition education in the schools. Further, it provides a means by which nutrition can become an integral part of the classroom curriculums and the child feeding programs.

Many nutritionists and educators see the following as some of the key benefits of NET. 2/

--The program decreases food waste in USDA's school lunch program. California studies have shown that waste can be reduced by 26 percent.

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1/"The Nutrition Education and Training Program: A Status Report," 1977-80, vol. 1, Cambridge, Mass., Abt Associates, 1980.

2/Paraphrased from a statement submitted by the Society of Nutrition Education to the Subcommittee on Elementary, Secondary, and Vocational Education, House Committee on Education and Labor, Mar. 27, 1981.

--The program saves money for USDA's school lunch program by improving the efficiency of school meal management through training of school food service personnel.

--The program teaches children good food habits as a result of the development of nutrition education curriculums and teachers' training. This provides children with crucial information about food and nutrition and prepares them to be responsible in making their food choices. When children learn good eating habits early in life, it is known to have long-term benefits for health and well-being and may help to keep down health care costs.

--The program also allows parental involvement. Parents benefit from NET because they become aware of the resources which help their children make decisions in today's complex marketplace.

NET activities in four States

The organizational structure and implementation of NET varied in the four States--California, Illinois, New York, and Texas--at the time of our visits in fiscal year 1981. Some of the differences we noted concerned:

--Program administration. California centrally administered all program activities; the other three States used regional centers located throughout their respective States.

--Program evaluation. California evaluated program results statewide; the other three States had some evaluation results on a limited number of projects.

--State funds. California supplemented NET funding each year with about $600,000 in State funds. Illinois also contributed some State funds; however, specific amounts were not readily available. The other two States did not appropriate any State funds for this purpose.

We also noted some similarities among the four States. For example, each State developed some of its own nutrition education materials with NET funds. (For more information on NET activities in the four States, see app. V.)

NET funding disrupted in fiscal year 1982

As a result of section 806, Public Law 97-35, NET's budget for fiscal year 1982 is limited to $5 million, down from the $15 million it received in fiscal year 1981. Because the administration did not decide until early January 1982 to fund the NET program in fiscal year 1982, some States and territories experienced problems in retaining key people responsible for operating NET. According to a NET program section head, as of November 15, 1981, most States and territories were temporarily funding the NET

coordinator position with State administrative expense funds from USDA's child nutrition programs. In seven States the coordinator's position was vacant, and only two States were using State funds to retain their coordinators. USDA did not have information on other NET activities in the States and territories.

On January 7, 1982, according to the USDA official responsible for NET, the Office of Management and Budget agreed to release NET's fiscal year 1982 funds of $5 million.

Department of Education

According to many Education and State education agency officials, Education considers nutrition education in the elementary and secondary schools a low priority. No Education program deals exclusively with nutrition education in the schools. One of the main reasons is that most Education programs are not mandated to address nutrition education. As a result, Education helps State and local education agencies very little in assessing the role of nutrition education in the schools.

Education has two programs--Consumer and Homemaking Education and Follow Through--that have mandates to provide nutrition education. Nutrition education could be included in 14 other Education programs; however, in these programs nutrition education occurs at the discretion of State and local agencies. (See app. VI for a description of these programs.)

The Consumer and Homemaking Education Program (commonly known as home economics), authorized by the Vocational Education Act, is intended to prepare individuals for a homemaking career. According to the act, the program must emphasize consumer education, resource management, nutritional knowledge and food use, and parenthood education.

The Follow Through Program was originally authorized in 1967 by amendments to the Economic Opportunity Act of 1964. It focuses primarily on children in kindergarten and primary grades from low-income families who were previously enrolled in Head Start or similar programs. (See p. 17 for a description of the Head Start Program.) Follow Through is an experimental community services program designed to assist the overall development of the targeted children. It attempts to strengthen the educational gains these children made in Head Start or similar preschool programs by (1) implementing innovative educational approaches and (2) providing comprehensive services in health, social services, nutrition, and other areas.

According to a Follow Through Program specialist, Follow Through project grantees are required to have the following four nutrition components.

--Daily lunch that provides approximately one-third of the recommended dietary allowances.

--Breakfast and snack where necessary.

--Nutrition education and counseling for children and parents.

--Training for Follow Through staff members.

The program emphasizes community and parental involvement and encourages focusing available resources from Federal, State, local, and private entities on the Follow Through children's needs.

Federal officials in the other 14 Education programs said that nutrition education is almost always a low priority and/or an insignificant part of the program. State education agency officials in the four States we visited generally agreed with this statement.

In addition to its 16 programs, Education maintains at least two other tools that can complement and supplement nutrition education activities in schools: the Educational Resources Information Center and the National Diffusion Network. (See p. 22.)

Department of Health and Human Services

The Department of Health and Human Services also has a program which includes nutrition education in the schools--the Head Start Program. Head Start focuses primarily on preschool children from low-income families to provide comprehensive health, nutritional, educational, social, and other services to help these children attain their full potential.

Head Start requires that children receive nutritional services. According to a Federal Head Start nutrition specialist, nutrition education is a high priority in the program and all Head Start children receive some nutrition education. One of the program's nutrition objectives is to help staff, child, and family understand (1) the relationship of nutrition to health, (2) the factors which influence food practices, and (3) a variety of ways to provide for nutritional needs and to apply this knowledge after leaving the program. In addition, the children receive nourishing meals and snacks to meet their daily nutritional needs. (See app. VII for other Head Start information.)

## OTHER PUBLIC AND PRIVATE SECTOR GROUPS INVOLVED IN NUTRITION EDUCATION

Some States, food manufacturers and retailers, trade associations, nonprofit agencies, and the dairy councils also support nutrition education in the schools in several ways, including developing a wide variety of education materials and curriculum guides. In addition, these groups develop other resource materials, ranging from simple posters to comprehensive teaching programs. A brief discussion of involvement by the State of

California, the National Dairy Council and one of its affiliates, and food manufacturers and retailers follows.

State of California

Of the four States we visited, only California had a substantial financial commitment to nutrition education in the schools. California established a nutrition education program in 1975 largely resulting from a USDA grant for a demonstration nutrition education project. The program enabled California to begin developing and testing plans, procedures, and curricular materials for local agency use. Since 1975 California has contributed about $600,000 a year for nutrition education activities in schools and child development centers. With NET's passage in 1977, the additional State funding has allowed California to supplement and broaden its efforts toward developing and disseminating nutrition education curriculums and materials in the State.

National Dairy Council and
Dairy Council of California

The National Dairy Council is a nonprofit research and educational organization of the dairy industry with a network of 127 affiliates nationwide. Its purpose is

> "* * * to contribute to the achievement of optimal health by providing leadership in nutrition research and nutrition education based on the concept of a balanced diet, including milk and milk products, in accordance with scientific recommendations."

In 1980 the budget for the council's headquarters and its 127 affiliated units totaled almost $16 million.

The council has nutrition education programs which have reached millions of elementary and secondary students. One of its programs is a curriculum for kindergarten through grade 6. For grades 7 through 10, the council has three programs which are organized around subject areas rather than grade levels. These subject areas are health, home economics, and social studies. The council is working on a program for grades 11 and 12.

The Dairy Council of California, one of the National Dairy Council's affiliates, has a budget of about $2 million a year. Although affiliated with the national council, the California council has its own nutrition education programs which are also used by schools in seven Southern and Midwestern States. The target groups for the California programs are second and fifth graders and teenage students. According to a California council official, its programs reach a large number of California students.

The California council claims its programs are effective. For example, it surveyed a sample of teenagers to determine the percentage of students who had eaten at least the minimum number

of servings needed from each food group to meet their daily nutritional requirements. The students kept food records to measure the change in their eating habits. Before the program instruction started, 48 percent of the students had eaten at least the minimum number of servings from the individual food groups compared with 69 percent by the end of the instruction period.

Food manufacturers and retailers

Some food manufacturers and retailers also have activities supporting nutrition education in the schools. Their materials generally deal with such topics as basic food information, recipes, and labeling. For example, during a prior review we identified one food manufacturer that had developed a teacher's guide for food labeling, and a food retailer that had assembled a general guidebook on food use mainly intended for teachers. 1/ In addition, all food manufacturers and retailers we visited during that review said that they believed the process of improving consumer nutrition knowledge must start in the schools. They also said that they believed that once the consumer has a better understanding of nutrition, the food industry would be more inclined to use nutritional information in promoting its products.

State NET coordinators' comments

Despite the involvement of many parties in nutrition education in the schools, the four State NET coordinators we visited said that this involvement is small relative to the nutrition education needs that exist. According to these coordinators, much more is needed by all parties involved to bring about an effective nutrition education program in the schools.

## FEDERAL EFFORTS THAT COULD IMPROVE FUTURE NUTRITION EDUCATION PROGRAMS

Although Federal efforts supporting nutrition education in the schools have improved during the last decade, further improvements are needed to enhance the effectiveness of nutrition education. These improvements include:

--Gathering and assessing nutrition education information and disseminating it to interested State and local education agencies.

--Developing assessment tools to identify nutrition education needs and accomplishments.

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1/We contacted five food manufacturers and three major retailers during our work on "Informing the Public About Nutrition: Federal Agencies Should Do Better" (CED-78-75, Mar. 22, 1978).

--Coordinating nutrition education efforts to complement current activities and avoid duplication.

--Preparing more teachers for nutrition education instruction.

Each of these is discussed in more detail below.

Gathering and assessing nutrition education information and disseminating the results

Neither USDA nor the Department of Education has sufficiently gathered and assessed nutrition education information and disseminated the results to State and local education agencies. As a result, these agencies could be investing unnecessary time and resources developing nutrition education information, possibly with Federal funds, because they did not have access to existing materials.

For NET, many State coordinators that we met at various NET conferences told us that they had difficulty in identifying useful and relevant nutrition education materials and consider this a significant problem. Even though USDA funded and completed several projects before NET began (see app. II), it did not (1) gather information from nutrition education projects, including Education's and those of the private sector, (2) assess the quality of these efforts, or (3) disseminate information on the strengths and weaknesses of these projects to interested State and local agencies.

For example, one such project resulted from a USDA grant to the California education agency from July 1, 1974, to December 31, 1975, for about $112,870. The project's final report, dated October 1976, indicated that 48 schools were part of the project involving 3,800 students, 800 teachers, and 200 parents. California considered the project successful because it showed, among other things, a 42-percent increase in student nutrition knowledge and an 18-percent reduction in plate waste. Furthermore, the State agency concluded that the project contained "sufficient verifiable data to provide methodology and material examples for any State or LEA [local education agency] that wishes to replicate this project." The report recommended that its data and data from similar projects be made available for those wanting to adopt the project's ideas, materials, methodology, and curriculum. We could not identify any action being taken on this recommendation. According to a former NET official, the NET staff wanted to gather, assess, and disseminate information from these types of projects when NET began, but NET did not have criteria to evaluate the information, nor did it have any funds to gather and disseminate it.

USDA has made some progress in identifying nutrition education materials; but it has not made progress in assessing the materials. For example, in 1979 USDA issued pamphlets summarizing such things

as the objective and methodology of section 6 and section 18 nutrition education and training projects completed and in progress. However, USDA did not assess these projects. According to USDA, final reports on the projects were available for dissemination, but when we asked USDA to locate the reports, it was not able to find a number of them. In addition, in May 1981 USDA in conjunction with the California education agency identified and described some of the nutrition materials developed by the NET program and listed them in a catalog; however, these materials were not assessed either. According to a USDA NET program section head, assessing the materials would have required establishing criteria and USDA believes this is a State function, not a Federal one. USDA disseminated the catalog to State NET coordinators but did not plan to distribute it to others because of a lack of funds. In the four States we visited, the NET coordinators said that the catalog was a step in the right direction, but that it lacked sufficient detail for judging the quality of the materials with respect to determining knowledge, attitude, and/or behavior of participants.

Two other groups, the 1978 USDA ad hoc advisory task force for NET and the 1979 National Conference on Nutrition Education 1/ Task Force, also recognized that assessing the content of nutrition materials is important. USDA convened the ad hoc advisory task force to provide guidance on NET regulations. The task force recommended that USDA "develop criteria for nutritional and educational appropriateness" of materials and resources used in nutrition education programs. According to a USDA NET official, criteria were not developed because USDA considered this to be a State responsibility.

The 1979 National Conference on Nutrition Education Task Force recommended:

> "Acceptable criteria for assessing the message and scientific content of food and nutrition curricula as well as of training guides should be established by appropriate professional groups and distributed widely as a basis for the evaluation of the content of nutrition education and training. These criteria should be subjected to ongoing and/or periodic review as the state of knowledge in these areas expands.

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1/The National Conference on Nutrition Education, Sept. 27-28, 1979, was entitled "Directions for the 1980's" and sponsored by USDA; U.S. Department of Health, Education, and Welfare; Office of Science and Technology Policy; Federal Trade Commission; and Society of Nutrition Education. The conference's purpose was "to provide direction and guidance in the form of recommendations, options, and priorities to the sponsoring groups and other public, private, and voluntary agencies in the country for addressing nutrition education needs for the 1980s."

"A federal locus for evaluating nutrition education materials and curricula and for providing current information about them should be developed utilizing data experts to design the system. More effective methods for state and local groups to share nutrition education and training materials should be established."

One State we visited--California--had contracted with a professional organization--the Society for Nutrition Education--to develop criteria for judging the scientific accuracy and educational effectiveness of nutrition education materials. In addition to developing criteria, the society was to develop a basis for evaluating these materials. The contract cost about $9,000 and was completed in late 1981. In May 1982 the State's NET coordinator told us that the developed criteria were being field tested on selected nutrition education materials.

The Federal Government has at least three systems which have the potential for disseminating nutrition information to State and local education agencies.

--USDA's Food and Nutrition Information and Education Resources Center.

--Education's Educational Resources Information Center (ERIC) and its National Diffusion Network (NDN).

The Food and Nutrition Information and Education Resources Center's responsibilities include collecting, assembling, maintaining, and lending food and nutrition education materials to State agencies and others. Although the Center does not assess the educational merits of its resource materials, USDA's food and consumer services officials have discussed the possibility of changing the Center's role to include material evaluation.

The second system, ERIC, is a network of 16 clearinghouses that collects, screens, and disseminates works in selected education areas; it is not limited to Education-funded projects. Specifically, ERIC makes educational research and development materials available to teachers and administrators. A review of ERIC files disclosed 180,737 total resource materials (for example, curriculum guides, articles, and reports); 1,189 of these materials deal with nutrition. Of the 1,189 nutrition materials, 334 deal specifically with nutrition instruction. According to an ERIC official, program officials do not assess the educational merits of the resource materials nor can they guarantee that ERIC includes all relevant materials.

The third system, NDN, is Education's main source for disseminating information about successful educational projects to State and local education agencies. NDN, established in 1974, disseminates information on a wide variety of model educational projects. An Education panel of evaluation experts reviews and approves the model educational projects for NDN dissemination.

The panel examines each project's claims of effectiveness to determine if it is a model project. According to the NDN director, NDN could provide some quality assurance to nutrition educators about the materials from which they can choose. Furthermore, according to the director, the cost of adopting a model project is minimal when compared with that of designing and developing a project. The director said that an average project costs about $500,000 to design and develop and about $4,000 to $5,000 to adopt.

In December 1980 an NDN representative attended a National NET Coordinators Conference and encouraged State coordinators to submit projects to NDN. Some State NET coordinators indicated that they planned to submit some of their projects for NDN approval. At the time of our fieldwork, however, no nutrition projects had been submitted. NDN had three projects with a nutrition component, but it did not list any projects that deal exclusively with nutrition education. The NDN director said that he would like NDN to have 5 to 10 nutrition projects of sufficient variety to give users a selection from which to choose. However, according to the director, NDN may not be able to absorb any nutrition projects because of limited funding.

## Conclusions

Even though the Federal Government has spent considerable funds over the past 10 years for nutrition education in the schools, little has been done to gather, assess, and/or share the results with State and local education agencies and the private sector. Because of declining Federal funds for nutrition education in the schools, it becomes increasingly important to share proven nutrition materials and the lessons learned from prior efforts. The failure to do this can result in an inefficient use of resources to develop and review nutrition education materials similar to those that already exist.

USDA's catalog listing various materials developed by NET is a positive step toward helping to identify available nutrition materials. However, these materials should be assessed for potential users to determine such things as:

--The scientific validity of the materials' content.

--The impact on recipients (i.e., students, teachers, and food service personnel), including changes in knowledge, attitudes, and/or behavior.

--The cost and difficulty of adopting materials and projects (e.g., teachers' training).

Developing sound criteria to assess nutrition education materials represents a critical step toward establishing their credibility for potential users. The National Conference on Nutrition Education Task Force's recommendation that appropriate

professional groups develop and review the criteria represents one approach in establishing such credibility. The California NET program's contract with the Society of Nutrition Education to develop criteria for judging nutrition education materials was a step in the right direction.

Furthermore, the task force's recommendation of a Federal location for evaluating nutrition education materials and providing information about these materials also has merit. If the Federal Government provided such a focal point, State and local education agencies interested in adapting or adopting nutrition education materials would be assured that the materials meet certain guidelines. This central evaluation and the dissemination of its results should save the time and money of others seeking nutrition education materials. In addition, (1) no new mechanism should be needed to gather and disseminate the information because both USDA and Education already have established systems (see p. 23) and (2) potential resources for evaluating the information exist through section 6(a) of the National School Lunch Act (see p. 12) and the Food and Nutrition Information and Education Resources Center. If each State were to develop the criteria and evaluate nutrition education materials, as USDA suggests, resources would be used inefficiently to the extent that the States duplicate each others' efforts.

## Recommendations to the Secretary of Agriculture

Because USDA has been the leading Federal agency supporting nutrition education in the schools, we recommend that the Secretary:

--Convene a panel of experts to develop guidelines for evaluating the quality of available nutrition education efforts for use in the schools. The panel should include teachers, food service personnel, nutritionists, systems design experts, and other appropriate persons. In developing guidelines, the panel should consider the results from the California NET program's contract with the Society of Nutrition Education to develop a means for judging the scientific accuracy and educational effectiveness of nutrition education materials. A mechanism should also be developed to periodically review and update the guidelines as necessary.

--Share these guidelines with interested State and local education agencies.

--Systematically gather and evaluate to the extent possible information on nutrition education projects that meet the established guidelines.

--Provide State and local education agencies and other interested parties access to the evaluation results and nutrition education information meeting the guidelines. USDA's

and Education's dissemination systems should be adequate for this purpose.

In carrying out the above recommendations, the Secretary should (1) explore using available resources such as section 6(a) of the National School Lunch Act and the Food and Nutrition Information and Education Resources Center and (2) coordinate to the extent practicable with the Department of Education, using the resources available to it.

## Developing nutrition education assessment tools

USDA's NET regulations require States to specify program objectives based on the needs States identify and to evaluate their NET programs' effectiveness. 1/ However, none of the States we visited specified objectives for knowledge, attitude, and/or behavior for participants (students, teachers, and food service personnel), and three of the four States we visited did not evaluate NET's effect on participants' knowledge, attitudes, and/or behavior. State NET staffs said that they did not have sufficient guidance and adequate training to adequately carry out the NET regulations. As a result, neither USDA nor three of the four States we visited could be certain of their programs' effectiveness.

### Needs assessment

A needs assessment--identifying the nutrition education needs of students, teachers, and food service personnel--is important in developing a nutrition education program and measuring the program's effects on participants. USDA's NET regulations require States to identify the nutrition education needs of students, teachers, and food service personnel and to specify objectives based on the needs identified. In 1978 USDA issued preliminary guidelines on how to identify these needs. The guidelines told States, in general terms, how to set their own NET goals, collect data on these goals, identify the needs, and develop a State plan based on the needs identified.

However, three States we visited did not use the preliminary needs assessment guidelines to identify their needs; the other State, New York, used them to some extent. The State coordinators from the three States said they did not use the guidelines because they were too theoretical or too vague. However, the coordinators from all four States said that they relied to some extent on USDA's State plan guidance in identifying their needs. According to a

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1/USDA's NET program is used as an example in this section. We did not review the needs assessments or evaluations of Education's or Health and Human Service's nutrition education programs. (See p. 3 for a discussion of why we did not review them.)

USDA NET program section head, USDA also found that State coordinators thought the guidelines were too theoretical. The official also said that the coordinators believed that relying on State expertise would be more helpful than further guidance from USDA. Therefore, USDA did not issue any final needs assessment guidelines.

Once an assessment is made, specific objectives should be developed to provide a basis from which to measure progress in meeting participants' identified needs. USDA's 1978 preliminary guidelines gave very little information on (1) how to specify objectives based on established goals and (2) examples of specific objectives. Even though USDA's annual State plan guidance told States they should specify objectives for each target group and gave them some guidance on how to do this, the guidance was insufficient. It dealt more with quantitative objectives (e.g., in 1981 50 percent of the State's food service staff will attend a 2-day nutrition workshop) than with qualitative objectives. The latter could refer to the workshop's effect on the food service staff's knowledge, attitudes, and/or behavior.

Although none of the States had established specific knowledge, attitude, and/or behavioral objectives for all participants--students, teachers, and food service personnel--California established specific knowledge and attitude objectives for students and teachers. (See table on p. 27 for examples of the students' specific objectives.) In addition, California began developing specific knowledge objectives for food service personnel in 1981. In Texas the State NET funded a joint local education agencies/regional project to develop specific knowledge and attitude objectives for students and teachers; however, the State coordinator said that requiring all local agencies to adopt these objectives was against State education agency policy. Neither Illinois nor New York had established these types of specific objectives for any program participants.

According to evaluation experts, without specific objectives, measuring program effects on participants (i.e., on their knowledge, attitudes, and/or behavior) becomes very difficult.

Examples of California NET
Specific Objectives for Students (note a)

| Topics - Food Choices (note b) | Objectives for students, ages 6 to 8 |
|---|---|
| Food classifications make it easier to select foods that will help a person achieve a nutritionally adequate diet. | Classify the foods in the basic four food groups. |
| | Identify the number of servings needed daily from each of the four basic food groups. |
| A variety of foods can be combined to help ensure a nutritionally adequate diet that includes the nutrients that are necessary for optimum health. | Identify the food groups that should be included in a school lunch. |
| Foods contain the nutrients the human body requires to function properly, and the interrelationships among nutrients are important for promoting health. | Identify two diet-related health problems and the kinds of foods associated with the problems. |
| | Identify two sequential steps in the digestion process. |

a/Paraphrased from the pamphlet entitled "Minimum Proficiency Levels for Nutrition Education in California Schools," California State Department of Education, 1979.

b/Specific objectives (or minimum proficiency levels) were developed for (1) five topics: food choices, factors influencing food choices, food-related careers, consumer competencies, and food handling and (2) five age groups: 3 to 5, 6 to 8, 9 to 11, 12 to 15, and 16 to 18.

Evaluations

Although the NET legislation does not require USDA to evaluate the program nationally, USDA's NET regulations require States to evaluate their programs' effectiveness. Three of the four States we visited did not evaluate their respective NET programs' effects on participants' knowledge, attitudes, and/or behavior. Some of the problems State NET staffs experienced were (1) inadequate guidance from USDA on evaluations, (2) inadequate training in evaluations, and (3) difficulty in identifying evaluation materials. As a result, neither USDA nor these States could be certain their programs were effective.

NET regulations require States to "conduct formal evaluations of program activities at least annually." The regulations also declare that State officials should analyze why some activities

were effective and others were not, and the officials should begin correcting the problems they identified.

In three of the four States we visited--Illinois, New York, and Texas--NET staff did not evaluate program effects on participants' knowledge, attitudes, and/or behavior. The fourth State, California, measured changes in students' knowledge, attitudes, and in some cases, behavior. It also measured changes in teachers' knowledge and attitudes.

Even though USDA required evaluations, it did not provide guidance on how to conduct them or what specifically to evaluate. A USDA NET program section head said that the need for evaluation guidance was recognized early in the program, but the lack of available funds precluded developing such guidance. The official also said that the amount of technical assistance given to States on conducting evaluations has depended on the expertise on USDA's NET regional staff.

Although NET regulations require the States to evaluate their programs, State NET coordinators attending a USDA-sponsored 1980 national NET conference evaluation workshop expressed concern about how or what to evaluate to a NDN and a NET official. In addition, the USDA-funded NET study referred to on page 14 stated that State NET coordinators had major problems in establishing monitoring, feedback, and evaluation systems and providing documentary evidence of their programs' progress.

Other groups have cited the need for Federal guidance in evaluations. The 1978 USDA ad hoc advisory group for NET recommended, among other things, that USDA develop evaluation criteria and issue evaluation guidance to States. Also, the 1979 National Conference on Nutrition Education Task Force recommended that Federal funding agencies, in this case, USDA, develop self-assessment tools to evaluate the quality of nutrition education programs and improve them as necessary. A USDA NET program section head told us that program officials recognized these concerns but lacked sufficient administrative funds to develop the guidance needed.

In addition to having insufficient guidance, NET coordinators in three of the four States we visited (California being the exception) said they were not adequately trained to design evaluations or develop evaluation instruments. The USDA-funded NET study reported that 38 percent of the State NET coordinators surveyed considered training in evaluation a problem. The 1979 task force also reported that nutritionists have "a pressing need" for assistance in applying evaluation techniques.

The four State NET coordinators we visited also said they had problems identifying useful evaluation materials, particularly attitudinal and behavioral evaluation materials. In addition, the USDA-funded NET study cited a lack of evaluation materials. The study found not only few nutrition education evaluation

instruments (e.g., tests), but also few studies describing proper procedures for designing nutrition education evaluations.

## Conclusions

Because three of the four States did not specify knowledge, attitude, and/or behavioral objectives and assess NET's effects on participants, USDA and these States lack information about their programs' effectiveness. Federal technical assistance in providing comprehensive guidance on both developing specific objectives and conducting evaluations could provide a systematic and consistent basis for determining program effectiveness. Federal technical assistance could also give interested State agencies a foundation from which to pursue a nutrition education program, rather than allowing each to struggle on its own, particularly during this period of reduced Federal funding.

Even though the NET legislation does not require USDA to collect comparable nationwide evaluation data or set specific program objectives, its administrative responsibility should include determining the program's effects on participants nationwide. Although it may be desirable to rely on the States (which are at various stages of development with their NET programs) to develop their own specific objectives, we believe it would be appropriate for USDA to adopt some overall program goals to aid in assessing NET's progress toward achieving these goals. In adopting these goals USDA should consider where the States are now in their program efforts and where they might be in the future, considering funding and other limitations. Without establishing measurable program goals, USDA lacks the management information needed to (1) effectively administer the program, (2) effectively guide program revisions, (3) ensure that Federal funds are spent cost effectively, and (4) provide sound data to the Congress so it can apportion scarce resources.

## Recommendations to the Secretary of Agriculture

We recommend that the Secretary aid interested States by developing

--general program goals and comprehensive guidance on how to specify program objectives for students, teachers, and food service personnel in the areas of knowledge, attitude, and/or behavior and

--evaluation guidance for measuring changes in participants' knowledge, attitudes, and/or behavior.

We also recommend that the Secretary convene a panel of experts to help develop the above guidance and establish program goals. These experts should include nutritionists, teachers, school administrators, school food service administrators, education evaluators, and other appropriate groups. Once USDA develops

the guidance, States would have the option of using it or of developing their own.

Coordinating nutrition education efforts

Coordinating nutrition education efforts in the schools is important; yet, USDA's and Education's coordination efforts are weak. Limited coordination exists (1) between USDA and Education, (2) within USDA's NET program, and (3) between the NET program and the dairy councils. Some of the possible effects of limited coordination are duplication of effort, inefficient use of scarce resources, and difficulty in identifying and sharing the results of each organization's nutrition education activities. Because USDA has the primary program--NET--directed at nutrition education in the schools, we concentrated on coordination efforts relating to the NET program.

The Congress recognized the importance of coordination between NET and other federally or State-funded nutrition education activities by mandating it at the State level in the NET legislation. But the legislation does not mandate coordination with those in the private sector who are involved with nutrition education in the schools. The 1978 USDA ad hoc advisory group for NET and the 1979 task force also recognized the importance of Federal-level coordination. USDA's ad hoc advisory group recommended that coordination between USDA and Education begin immediately and said that this coordination was essential to successfully implementing NET at the State and local levels.

The 1979 task force recommended that USDA and the Department of Health, Education, and Welfare (now the Department of Health and Human Services) and Education "demonstrate a coordinated approach to nutrition education * * *" with other Federal agencies and organizations. For example, local agencies can use Education's Elementary and Secondary Education Act (ESEA) title IV-C program funds to develop and adopt nutrition education projects similar to NET projects. Local agencies can also use title IV-C funds to adopt model projects originally developed by NET. Based on 35 States reporting to Education in fiscal year 1980, the title IV-C program had at least 38 nutrition-related projects totaling at least $404,000. Title IV-C officials in the four States we visited said that there was some coordination at the State education agency level between the title IV-C program and NET; however, a Federal title IV-C program manager said no formal coordination existed between the two programs at the Federal level.

USDA and Education attempted to coordinate activities between their respective departments in early 1980, but nothing developed. An Education Assistant Director said that several USDA Food and Nutrition Service officials met with officials in Education's Office of Comprehensive School Health, which was set up to coordinate health-related activities. The meeting's purpose was to explore ways of coordinating USDA's NET program with Education's programs supporting nutrition education in the schools. According

to the Assistant Director, however, the NET Director left USDA and no further coordination discussions took place.

In addition, only limited coordination between USDA's NET program and Education existed at the State level. Although NET coordinators in the four States said that there was some coordination with other nutrition education providers within their States, the extent of this coordination is unknown. Most State agency officials for the Education programs which can include nutrition education in these four States said that there was very little, if any, coordination between their programs and NET. Some of these State agency officials were not aware that NET even existed.

Of the four States, only New York had a formal mechanism for coordinating NET activities with other nutrition education activities in the State. The State education agency had two task forces, one to coordinate nutrition activities within the State agency and one to coordinate nutrition activities between the agency and other New York agencies. The task force coordinating activities within the State agency met about three times a year, but the task force did not include a representative of the title IV-C program. The NET coordinator said that she would consider inviting a title IV-C representative to the task force in the future.

USDA has made limited attempts to coordinate the NET activities of all States and territories in the program. Each State and territory developed and implemented NET using its own approach, thus allowing for a wide variety of approaches to NET. Among USDA's attempts to coordinate NET activities were two major meetings it hosted for NET coordinators where some interchange of ideas and materials could take place. Also, as discussed on page 21, USDA assembled a catalog listing some of the nutrition materials developed by various States. In addition to these mechanisms for exchanging ideas, NET's section head told us that there are often informal lines of communication between some coordinators.

Even though USDA has attempted to coordinate some NET activities, many NET coordinators said that they were having difficulty identifying useful nutrition education materials. As discussed on page 20, a need exists to gather and assess these materials. By meeting this need, USDA could help each State share its nutrition education experiences with the other States.

In addition, only limited nutrition education coordination existed between NET and the dairy councils at the Federal level and in the four States we visited. Although the NET legislation does not require coordination with the private sector, such coordination could provide a more unified approach to nutrition education in the schools. In addition, it should reduce potential duplication of effort and the inefficient use of scarce resources.

Because the dairy councils have a substantial commitment to nutrition education in the schools, coordinating NET activities with them could benefit both the public and private sectors in this area. A National Dairy Council official said that the council would be interested in greater coordination with USDA's NET program. According to a former head of NET, USDA did not coordinate with industry groups when NET was being implemented because USDA was concerned about the potential bias of industry and its nutrition education materials.

## Conclusions

Better coordination is needed among organizations supporting nutrition education activities in the schools. Because many organizations can be involved in nutrition education and because of reductions in NET's funding, it is important to share nutrition education efforts and develop a uniform strategy that permits the resources of all organizations to be maximized.

## Recommendation to the Secretary of Agriculture

We recommend that the Secretary coordinate USDA's nutrition education activities for the schools with the Department of Education's nutrition education activities. This coordination should include, among other things, (1) identifying and sharing with interested State and local education agencies the extent and results of successful nutrition education activities, thus preventing unnecessary duplication, and (2) developing a unified strategy to reach as many students as possible needing nutrition education. The coordination should occur at the Federal level and should be encouraged at the State level. Coordination at all government levels should include the private sector, such as the dairy councils.

## Other improvements are needed

Because most States do not require training in nutrition education as a prerequisite for teaching, many teachers who are responsible for teaching nutrition are not prepared to teach it upon entering the teaching profession. They must rely on sporadic inservice training to fill the gap. This lack of adequate training can cause teachers to feel uncomfortable or lack the confidence to teach nutrition education. Because teachers play a major role in educating children about nutrition, they should possess the necessary skills to have a positive effect on a child's nutrition knowledge, attitude, and/or behavior.

The importance of the teacher's role in nutrition education has long been recognized. For example, the 1969 White House Conference on Food, Nutrition, and Health recommended that teachers who have responsibility for nutrition education in the schools need the required undergraduate education in nutrition as well as in methods for teaching nutrition. The 1977 NET legislation also

stated that many teachers "have not had adequate training in the fundamentals of nutrition or how to convey this information so as to motivate children to practice sound eating habits." NET legislation authorizes funds to be used for "instructing teachers in sound principles of nutrition education." Also, the 1979 task force recommended that "Nutrition education should be a requisite for teacher certification or recertification in some, if not all, specialty areas." The task force included science, health, and home economics as specialty areas.

Teacher preservice training

The preservice, or college-level, preparation of teachers for preschool, elementary, and selected high school subjects (e.g., home economics, health, and science) seldom includes training in nutrition. A 1975 USDA-funded study by the Education Commission of the States 1/ found only three States that required elementary teachers to be trained in nutrition as part of their preparation for a general teaching certificate, and only one State required this of secondary school teachers. Another USDA-funded study in 1980 (see footnote on p. 14) reported that 12 States required nutrition courses for high school home economics teachers; 5 States for health education teachers; and no States for elementary, science, or other teachers.

In addition to a basic lack of preservice nutrition education requirements for teachers, few States require that nutrition be taught in school. According to an American School Health Association survey of school health programs, as of March 1979 9 States required teaching nutrition; 14 States made teaching nutrition optional; and 27 States did not mention teaching nutrition as part of the curriculum. Of the four States we visited, only Illinois required that schoolchildren be taught about nutrition. California and New York made teaching nutrition optional; Texas did not mention teaching the subject as part of the curriculum.

Teacher inservice training

Overall, NET and organizations such as the dairy councils have contributed to improving teachers' nutrition knowledge. However, the scope and quality of inservice teacher training in nutrition and its impact in the classroom are unknown. For example, USDA reports that the NET program served over 200,000 teachers in fiscal year 1980. This number has little meaning, however, because it could represent teachers who have received

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1/The Education Commission of the States, a nonprofit organization formed by interstate compact in 1966, consists of 48 States and 3 territories. Its goal is to further a working relationship among governors, State legislators, and educators for improving education.

a wide range of inservice training (e.g., from 2 hours to 2 weeks).

According to the USDA-funded NET study in 1980 (see footnote on p. 14), 25 States reported the lack of teacher training opportunities as a problem in implementing nutrition education even though teacher workshops for nutrition education were available in these States.

Conclusions

Teachers who are properly trained to instruct students in nutrition should be more comfortable in providing nutrition education in the classroom. The establishment by State education agencies of a prerequisite, such as competency levels, for teachers who provide nutrition education in the schools appears to be one approach to helping ensure that teachers have the basic skills to teach nutrition. This approach should also allow States to compare current teacher skill levels with desired levels and focus needed training to close this gap.

One approach to prepare new teachers in nutrition education would be to make it a prerequisite for certification as a teacher in elementary schools or for such secondary school subjects as home economics, health, and science. This approach would have long-term potential for ensuring that more new teachers have some training in nutrition.

Recommendation to the Secretary of Agriculture

We recommend that the Secretary discuss with State education agencies involved in administering child nutrition programs and/or providing nutrition education in the schools what approaches might be taken to help ensure that teachers have the basic skills needed to teach nutrition. One topic that should be included in the discussion is the possibility of establishing for all elementary schoolteachers and selected secondary schoolteachers in such subjects as home economics, health, and science

--nutrition education as a prerequisite for certification of new teachers and

--competency levels for nutrition education and providing inservice training for teachers needing help in achieving these competency levels.

Agency comments and our evaluation

In its comments (see app. VIII), USDA said that it generally agreed with our characterization of nutrition education in schools but questioned the appropriateness of the approach we took in our review. Its major concern is the report's theme which USDA believes supports Federal intrusion into the State and local

nutrition education curriculum process. It further said that our conclusions and recommendations are based on the assumption that USDA has primary responsibility to develop and provide to State agencies specific strategies, methodologies, materials, and guidelines for implementing a uniformly structured NET program nationwide. It added that this viewpoint was not consistent with the NET authorizing legislation, which it said virtually assures that each State would have maximum flexibility in designing a program relevant to its needs, resources, and priorities.

USDA also stated that it is generally recognized in the nutrition and education communities that the areas of curriculum development and evaluation must be improved in school-based nutrition education programs. It added that there is an ongoing debate concerning whether direction should come from the Federal, State, or local level.

We understand USDA's concern about Federal intrusion into the State and local nutrition education curriculum process. However, our recommendations do not call for mandating a nutrition education curriculum nor is it our intent to suggest that USDA dictate what State and local education agencies can and cannot do. However, as discussed throughout the report, many individuals involved in the NET program were experiencing difficulties in identifying useful and relevant nutrition education materials, assessing program needs, and evaluating program effectiveness. We believe that USDA, as the leading Federal agency supporting nutrition education in the schools, is in the best position to assure that the Nation gets the maximum benefits from the nearly $100 million USDA has invested in nutrition education in the schools during the past decade. By carrying out the recommendations in this report, USDA can help those States and local education agencies that want assistance in their nutrition education programs. The States would still have flexibility in designing a program relevant to their needs, resources, and priorities.

## GAO REPORTS ON VARIOUS FEDERAL FOOD AND NUTRITION EFFORTS

"Evaluation of Efforts To Determine Nutritional Health of the U.S. Population," B-164031(3), Nov. 20, 1973

"National Nutrition Issues" (CED-78-7, Dec. 8, 1977)

"How Good Are School Lunches?" (CED-78-22, Feb. 3, 1978)

"Informing the Public About Nutrition: Federal Agencies Should Do Better" (CED-78-75, Mar. 22, 1978)

"Federal Human Nutrition Research Needs a Coordinated Approach To Advance Nutrition Knowledge" (PSAD-77-156 and PSAD-77-156A, Mar. 28, 1978)

"Recommended Dietary Allowances: More Research and Better Food Guides Needed" (CED-78-169, Nov. 30, 1978)

"Future of the National Nutrition Intelligence System" (CED-79-5, Nov. 7, 1978)

"Formulated Grain Fruit Products: Proposed Restrictions on Use in School Breakfast Program Should Be Reevaluated" (CED-79-12, Dec. 26, 1978)

"What Foods Should Americans Eat? Better Information Needed on Nutritional Quality of Foods" (CED-80-68, Apr. 30, 1980)

"Child Care Food Program: Better Management Will Yield Better Nutrition and Fiscal Integrity" (CED-80-91, June 6, 1980)

"Major Factors Inhibit Expansion of the School Breakfast Program" (CED-80-35, June 16, 1980)

"Areas Needing Improvement in the Adult Expanded Food and Nutrition Education Program" (CED-80-138, Sept. 4, 1980)

"Comments on Food Advertising Proposals" (CED-81-27, Nov. 7, 1980)

"Efforts To Improve School Lunch Programs--Are They Paying Off?" (CED-81-121, Sept. 9, 1981)

"Regulation of Cancer-Causing Food Additives--Time for a Change?" (HRD-82-3, Dec. 11, 1981)

"Informing the Public About Food--A Strategy Is Needed for Improving Communication" (CED-82-12, Jan. 8, 1982)

DEPARTMENT OF AGRICULTURE'S ELEMENTARY/SECONDARY SCHOOL NUTRITION EDUCATION-RELATED PROJECTS (note a)

COMPLETED BEFORE PASSAGE OF THE NUTRITION EDUCATION AND TRAINING PROGRAM

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Nutrition education seminar for school food service supervisors | Florida Agricultural and Mechanical University at Tallahassee, Florida | May 1972 | $48,530 | Created an awareness of the need for nutrition education, emphasizing new approaches to developing school food service nutrition education activities. |
| Nutrition education seminar for school food service supervisors | Kansas State University | November 1973 | 50,000 | Created an awareness of current trends and desire for further knowledge in nutrition education.<br><br>Supervisors were given projects to pursue during the year as a continuous learning experience. |
| Nutrition education seminar for school food service supervisors | Pennsylvania State University | May 1972 | 39,225 | Expanded and updated knowledge of supervisors regarding the importance of nutrition and nutrition education in child nutrition programs and the importance of interaction between groups interested in nutrition. |
| Nutrition education workshop for teachers | West Virginia Department of Public Instruction | October 1972 | 17,000 | Eighteen percent of those present said the workshop had created an awareness of the importance of nutrition education in early education, and 26 percent said they would be able to incorporate nutrition and health in early childhood curriculum. Too few teaching tools, materials, audiovisual aids, and methods limited the workshop's effectiveness. |
| Nutrition education seminar for school food service supervisors | University of Wisconsin | June 1972 | 45,856 | Provided the impetus and stimulus needed to develop and strengthen leadership abilities of supervisory school food service personnel, enabling them to contribute toward and participate in child nutrition education programs. |



APPENDIX II

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Nutrition education seminar for school food service supervisors | Utah State University at Logan, Utah | January 1972 | $49,517 | Expanded and updated the knowledge of food service supervisors with regard to the importance of nutrition and nutrition education in child nutrition programs. |
| Nutrition education workshop for teachers | Minnesota Department of Education, Moorhead State College and Minnesota Health Department | December 1971 | 558 | General teacher reactions were that (1) more nutrition education was needed at all grade levels, (2) inservice nutrition education was needed, and (3) school food service personnel should help plan the nutrition curriculum. |
| Nutrition education workshop | West Virginia Department of Education | December 1973 | 74,000 | Participants' experiences in the seminar were developed into a publication "Nutrition Education—Whose Job Is It?" —which has been distributed to all chief State school officers and State school food service directors. The workshop participants included teacher and school food service personnel. |
| Nutrition education specialist | Alabama Department of Education | June 1974 | 38,751 | Development of kindergarten through sixth grade curriculum framework to provide a coordinated approach to nutrition education. |
| Nutrition education specialist | Alabama Department of Education | April 1976 | 62,636 | Revision and dissemination throughout the State of a kindergarten through sixth grade curriculum that was developed earlier. |
| Nutrition education specialist | Arkansas Department of Education | January 1974 | 35,483 | Establishment of a three-unit graduate education course in nutrition education for elementary teachers at the University of Arkansas.<br><br>Teachers participating in the course are bringing nutrition education to their classrooms.<br><br>Better rapport between teachers and school food service workers. |







APPENDIX II

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Nutrition education specialist | California State Department of Education | April 1974 | $ 43,513 | Developed a comprehensive nutrition and food education program for teachers, parents, and kindergarten through third grade.<br><br>Students participating in the project showed improved nutrition knowledge, attitudes, and eating practices over those in the control group. |
| Nutrition education specialist | California State Department of Education | Dec. 1975 | 112,869 | Experimental schools had 18 percent less lunchroom plate waste and 42 percent greater nutrition knowledge compared with the control group.<br><br>The project success led to the establishment of a State nutrition law and funds for nutrition education projects, preschool through high school. |
| Nutrition education specialist | Montana Department of Education | January 1977 | 57,509 | Increased students' nutrition knowledge and school lunch participation in schools participating in the projects.<br><br>Improved student attitude toward food was demonstrated through a decrease in plate waste. |
| Nutrition education specialist | Nebraska Department of Education | June 1974 | 20,435 | Disclosed a strong connection between enjoyable experiences children had with food and increased acceptance of certain foods. |
| Nutrition education specialist | Nebraska Department of Education | July 1977 | 36,799 | Hired the project director permanently to work in the area of nutrition education and train food service personnel.<br><br>Food attitudes of third and fifth grade students were flexible and appeared to be easily influenced by peer pressure, food preparation, and advertising.<br><br>Increased acceptance of nutritious foods resulted in enjoyable experiences with food. Actual consumption increased by 20 percent or more for seven different food items. |







APPENDIX II

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Nutrition education specialist | New York State Education Department | June 1974 | $29,076 | Developed pilot nutrition education programs in several school districts.<br><br>Increased awareness of nutrition health education among professionals.<br><br>Stimulated community nutrition education awareness through the media. |
| Nutrition education specialist | Pennsylvania Department of Education | June 1974 | 39,068 | Developed a pilot training program for improving school lunch aides' attitudes toward school food service and developed a model for inservice nutrition education training for teachers and administrators.<br><br>Showed the need for a nutrition education specialist to coordinate food service-related nutrition education programs in Pennsylvania. |
| Nutrition education specialist | West Virginia Department of Education | December 1975 | 96,935 | Developed a Teacher's Guide with a conceptual framework for nutrition education modules at specific age levels.<br><br>Developed tests to measure students' nutrition knowledge and attitudes.<br><br>Improved nutrition knowledge and less plate waste resulted among project participants versus nonparticipants. |







APPENDIX II

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Nutrition education day care program | National Urban League (project location—Model Day Care Center, Philadelphia, Pa.) | June 1974 | $110,032 | Developed two manuals: (1) one describes in detail the operation of the nutrition education program, including curriculum examples, and (2) the second represents a brief special food service program for children in similar care centers.<br><br>Records of children's diets showed a slight improvement from the first to the second measurement of their diets but no improvement in a third measurement. |
| Nutrition education program for migrant children and their mothers | Whatcom-Skagit Rural Opportunities Council, Washington State | February 1974 | 7,319 | Implemented a nutrition education program for Mexican-American migrant children and mothers in a day care center.<br><br>Developed color poster pictures for many Mexican-American foods. |
| Fiscal year 1975 grant to States | District of Columbia Department of Human Resources, Supplemental Food Branch | January 1977 | 47,126 | Developed nutrition-related audio-visual materials to teach nutrition. Materials were used and evaluated as successful at workshops attended by food service personnel, teachers, parents, students, and health or nutrition aides.<br><br>Post tests showed a significant increase in nutrition knowledge for all groups. |
| Fiscal year 1975 grant to States | Louisiana State Department of Education | March 1977 | 29,567 | Project's results for kindergarten through third grade students were inconclusive in the areas of attitude and consumption. |







APPENDIX II

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Fiscal year 1975 grant to States | Massachusetts State Department of Education, Lowell, Massachusetts | February 1977 | $27,000 | The project's objectives to improve the nutritional knowledge and food intake of bilingual children and increase the acceptability of and participation in child nutrition programs showed, among other things, that bilingual students' food preferences are similar to the English-speaking school population.<br><br>Materials developed for this project should be usable with multi-ethnic groups. |
| Fiscal year 1975 grant to States | Minnesota State Department of Education, Minneapolis, Minnesota | March 1977 | 69,641 | Developed an integrated approach to teaching nutrition education through a "Nutrition Learning Center" in which students, parents, educators, and other adults had a "hands-on" learning experience involving child nutrition program foods and selection.<br><br>Evaluation results showed a positive change in knowledge, attitudes, and behavior.<br><br>Participation in the school breakfast and lunch programs increased with a correlated increase in the consumption of essential nutrients. |
| Fiscal year 1975 grant to States | New Mexico State Department of Education (7 rural communities) | December 1976 | 30,000 | Developed and tested a videotape to reach adult audiences in isolated areas to make them aware of the nutritional needs of school-age children. |
| Fiscal year 1975 grant to States | Pennsylvania Department of Education, Division of Food and Nutrition Services, Pittsburgh, Pennsylvania | January 1976 | 15,997 | Developed workshop materials and a curriculum guide to increase the nutritional knowledge and understanding of school lunch aides on their role in nutrition education.<br><br>Developed materials that have potential for use on a regional or national scale. |







APPENDIX II

| Subject | Grantee | Completion date | Funding | Examples of reported project outcomes |
|---|---|---|---|---|
| Fiscal year 1975 grant to States | Commonwealth of Puerto Rico, Department of Education, Guaynabo | April 1977 | $ 30,873 | Developed and tested a nutrition education program directed to parents of children not participating in the school lunch program. The program's goal is to bring about changes in attitudes toward child nutrition programs. |
| Evaluation of a comprehensive nutrition education curriculum | Applied Management Sciences, Silver Spring, Maryland (study area--5 States within 1,000-mile radius of contractor) | December 1976 | 308,384 | Developed and evaluated a kindergarten through twelfth grade nutrition education curriculum for students involving school food service personnel, school administrators, and instructional staff.<br><br>Gains were observed in students' nutrition knowledge and food consumption in the school lunch program.<br><br>Data showed that nutrition education can be effectively integrated into the National School Lunch Program. |
| First State nutrition education project | Georgia Department of Education | June 1976 | 152,821 | Developed a team approach process that allows schools to coordinate nutrition education with good eating habits in the lunchroom. The process includes school food service manager and teacher involvement in developing and implementing an effective nutrition education program.<br><br>Developed training guides and evaluation tools plus the seminar to train a facilitator (who in turn trains the manager/teacher team). |
| Television series on nutrition, food for youth | New England States Education Council, Incorporated | January 1973 | 287,725 | Developed videotapes, study guide, and promotion brochure to motivate and improve school food service employees' nutrition knowledge and use of existing tools to upgrade children's diets. |

a/Funded through section 6(a)(3), National School Lunch Act, as amended.





APPENDIX II

DEPARTMENT OF AGRICULTURE'S ELEMENTARY/SECONDARY SCHOOL NUTRITION EDUCATION-RELATED PROJECTS (note a)

AWARDED AFTER PASSAGE OF THE NUTRITION EDUCATION AND TRAINING PROGRAM

| Subject | Grantee | Award date | Completion date | Funding | Examples of reported project objectives |
|---|---|---|---|---|---|
| Fiscal year 1978 grant to States | Arizona Department of Education and the University of Arizona (project location—South Central Arizona) | September 1978 | October 1980 | $ 95,398 | To involve students, teachers, school food service personnel, school nurses and other community members in a "team" approach to nutrition education.<br><br>To determine effective strategies for teaching sixth grade students to be competent nutrition consumers. |
| Fiscal year 1978 grant to States | Minnesota Department of Education (project location—Minneapolis, Minnesota) | September 1978 | February 1981 | 75,000 | To develop a model which will provide nutrition education to a variety of audiences—including preschoolers, secondary students, parents, educators, administrators, and food service personnel. |
| Fiscal year 1978 grant to States | Tennessee State Department of Education (project location—University of Tennessee, Child Development Center, Memphis) | September 1978 | March 1980 | 29,967 | To develop a nutrition education program for mentally retarded and developmentally disabled children and to determine its effectiveness on their acceptance of foods offered in a school feeding program and on their growth and development. |
| Fiscal year 1979 grant to States | California State Department of Education (project location—California State University, Northridge) | September 1979 | b/December 1981 | 154,524 | To develop age-appropriate nutrition education materials and strategies which will demonstrate a measurable improvement in knowledge, attitudes, and dietary practices of young children, their parents, and teachers. |





APPENDIX III

| Subject | Grantee | Award date | Completion date | Funding | Examples of reported project objectives |
|---|---|---|---|---|---|
| Fiscal year 1979 grant to States | Iowa Department of Public Instruction | September 1979 | October 1980 | $121,000 | To develop educational packages designed to convey positive nutrition concepts to preschool children and their parents.<br><br>To develop a system to test the effectiveness of the project materials and activities. |
| Fiscal year 1979 grant to States | Portland Public School Department, Portland, Maine | September 1979 | b/June 1982 | 144,406 | To bring together parents, teachers, principals, cafeteria workers, and students in an intensive 2-week nutrition education workshop. The participants will then be responsible for spreading nutrition knowledge in a controlled ripple effect. |

a/Funded through section 18 of the Child Nutrition Act.

b/Estimated completion date as of mid-December 1981.





APPENDIX III

## FEDERALLY FUNDED U.S. DEPARTMENT OF AGRICULTURE NUTRITION EDUCATION ACTIVITIES IN THE SCHOOLS

| Program | Authority | Program description/ objectives (note a) | Target groups | Location (note b) | Program funding FY 1980 | Nutrition education data: Number of students FY 1980 | Nutrition education data: Priority |
|---|---|---|---|---|---|---|---|
| Nutrition Education and Training (NET) | Child Nutrition Act of 1966 - section 19 (42 USC 1788) | To provide grants to State educational agencies to develop comprehensive nutrition education and information programs. | Students, teachers, and food service personnel. | Nationwide | c,d/$20,000,000 | e/5,229,288 | High |
| | | | | California | c,d/1,974,604 | e/42,768 | High |
| | | | | Illinois | c,d/1,028,265 | e/371,281 | High |
| | | | | New York | c,d/1,594,292 | e/563,758 | High |
| | | | | Texas | c,d/1,277,147 | e/62,345 | High |
| Section 6 of the National School Lunch Act | National School Lunch Act (42 USC 1755) | To provide grants to States for nutrition education and training for workers and participants in these programs. | Students, teachers, and food service personnel. | Nationwide | | | |
| | | | | California | (f) | (f) | (f) |
| | | | | Illinois | (f) | (f) | (f) |
| | | | | New York | (f) | (f) | (f) |
| | | | | Texas | (f) | (f) | (f) |
| | | | | | (f) | (f) | (f) |
| Section 18 of the Child Nutrition Act | Child Nutrition Act (42 USC 1787(b)) | To provide grants to States to conduct experimental or demonstration projects to teach schoolchildren the nutritional value of food. | Students, teachers, and food service personnel. | Nationwide | | | |
| | | | | California | (f) | (f) | (f) |
| | | | | Illinois | g/$46,152 | g/Unknown | g/High |
| | | | | New York | (f) | (f) | (f) |
| | | | | Texas | (f) | (f) | (f) |
| | | | | | (f) | (f) | (f) |

a/This is a brief description and may not be all-inclusive.

b/We conducted our work at the Federal level and in these four States.

c/Budget authority for fiscal year 1980.

d/Because this program deals exclusively with nutrition education, all program funds would be spent in this area.

e/All students in the program receive nutrition education.

f/No FY 1980 grants were awarded to States for nutrition education projects in the schools.

g/Amount funded in fiscal year 1980 for a fiscal year 1979 nutrition education project in the schools.

## NET ACTIVITIES IN CALIFORNIA, ILLINOIS, NEW YORK, AND TEXAS

In the four States we visited--California, Illinois, New York, and Texas--we found that (1) each State organized NET somewhat differently, (2) two States--California and Illinois--funded nutrition education activities in the schools, (3) nutrition education was a low priority and was provided sporadically, (4) food service personnel involvement in the program was limited, and (5) parental involvement was limited.

### ORGANIZATION

NET's organizational structure was similar in three of the four States we visited. The California NET was centrally administered at the State level. In Illinois, New York, and Texas, regional educational service centers were used.

The regional centers in the three States had some common characteristics. For example, the centers existed before the NET legislation was passed in 1977 to provide educational services to local agencies. In fiscal year 1980 some common functions of the centers relating to NET included (1) identifying program needs, (2) providing technical assistance to local education agencies, (3) providing inservice training to teachers and food service personnel, and (4) coordinating with other nutrition education activities.

In addition, the Illinois and Texas centers in 1980 awarded grants to local agencies to conduct nutrition education activities and to develop nutrition education materials. New York awarded such grants to local agencies in fiscal years 1978 and 1979, but in 1980 it discontinued direct funding. According to a New York official, the State had completed developing nutrition education materials using 1978 and 1979 funds. Consequently, the State decided to focus the program on training teachers and food service personnel to implement materials developed for NET by the staff and Cornell University. The official also said that such training provides a basis for reaching students at the local level.

### FUNDING

The following schedule shows the NET budgets in each of the four States for fiscal years 1978 through 1981. The funding was based on student population.

NET Budgets (note a)

| State | Fiscal year 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|
| California | $2,430,000 | $2,460,000 | $1,970,000 | $1,370,000 |
| Illinois | 1,350,000 | 1,320,000 | 1,030,000 | 730,000 |
| New York | 2,090,000 | 2,010,000 | 1,590,000 | 1,070,000 |
| Texas | 1,500,000 | 1,540,000 | 1,280,000 | 920,000 |

a/Budget amounts are rounded to nearest $10,000.

In addition to receiving NET funding, California and Illinois schools received State funds for nutrition education activities. California has contributed about $600,000 annually since 1975 for nutrition education activities. The Illinois State legislature established a nutrition council in June 1977. The council's responsibilities included nutrition education activities both within and outside the schools. In fiscal year 1980 the State budgeted $125,000 for all council activities.

STUDENT PARTICIPATION

USDA requires the States to report the number of students, teachers, and food service personnel participating in their NET programs. Below is a table of the reported number of students participating in the program in fiscal year 1980.

| State | Number of students Participating in NET | In the State (note a) |
|---|---|---|
| California | 42,768 | 4,813,488 |
| Illinois | 371,281 | 2,506,600 |
| New York | 563,758 | 3,886,401 |
| Texas | 62,345 | 3,113,296 |

a/Data based on Education's certified data for elementary and secondary students.

LOW PRIORITY

Even though each State implemented NET, State NET officials said that nutrition education in the schools was sporadic and had low priority compared with other educational subjects. For example, in Illinois a State agency official said that NET had made educators more aware of nutrition education's importance, but other subjects, such as reading and mathematics, are considered basics and receive much more emphasis. State NET coordinators said that implementing nutrition education depended, in

part, on teachers', principals', and other school administrators' interest.

LIMITED FOOD SERVICE PERSONNEL INVOLVEMENT

Although nutrition training of food service personnel had begun in all four States, State education agency officials in the States said that involving food service personnel with students and teachers and using the cafeteria as a learning laboratory both needed improvement. According to the State NET coordinators, barriers to using the cafeteria as a learning laboratory included the (1) food service personnel's low self-esteem and (2) views of teachers and school administrators that cafeteria personnel provided a support service, not an educational service.

LIMITED PARENTAL INVOLVEMENT

Although parents had been involved to a limited degree in the four States' NET programs, the NET coordinators said that involving parents in any educational activities was difficult. 1/ The involvement included teachers/food service personnel sending recipes home with the students, NET staff making nutrition presentations at parent organization meetings, and parents participating in nutrition activities held at schools.

California, although not required to, collected parental participation statistics for NET. During the 1978-79 school year, 445 parents participated in the program.

NET ACTIVITIES IN EACH STATE

California

California began developing and implementing nutrition education at the local level before the Congress passed the NET legislation. (See p. 18 for more information.) Both the State's program and the California NET program were administered by the same staff and were designed to reach students, teachers, food service personnel, and parents. State NET functions included

--determining program needs,

--developing a statewide sequential kindergarten through grade 6 curriculum (implementation scheduled for fall 1981),

--developing a statewide sequential grade 7 through 12 curriculum (implementation was scheduled for fall 1982),

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1/Though the NET legislation did not require parental involvement in the program, the legislation noted that parents significantly influence their children's eating habits.

--developing and implementing minimum performance standards for students, 1/

--developing and implementing minimum performance standards for teachers,

--developing minimum performance standards for food service personnel,

--developing and implementing college-level courses for food service personnel, and

--developing other nutrition education materials.

Other activities included the funding of three types of projects to local agencies (including local education agencies). These projects were for (1) developing model nutrition education programs, (2) disseminating information on the developed model projects to interested local agencies, and (3) helping interested local agencies adopt these model projects. The State requires annual evaluations of these projects using State and/or locally developed evaluation methods. (See chart on p. 51 for more details on evaluation requirements.) The evaluation methods differed depending on the type of project; however, almost all projects were required to evaluate participating students' and teaching staffs' knowledge and attitudes. In addition, the State required model and developing projects, in school year 1980-81, to hire independent evaluators. The evaluators' function included

--observing classroom activities two or three times a year to evaluate student instruction and the use of nutrition education materials,

--observing and evaluating the integration of projects with food service and other school and community projects,

--helping to develop an evaluation instrument for local use, and

--developing methods to evaluate parental activities.

At the end of each project year, the State summarized the projects' results.

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1/The student minimum performance standards are used in developing (1) the statewide curriculums, (2) standardized student knowledge and attitude tests, (3) teacher minimum performance standards, and (4) inservice training of teaching staff.

## California Local Projects' Evaluations, School Year 1980-81

| Type of project | EVALUATIONS REQUIRED BY THE STATE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control group required | Student knowledge assessment (pre) | Student knowledge assessment (post) | Student attitude assessment (pre) | Student attitude assessment (post) | Student plate waste study (pre/post) | Student skills rating sheet (ongoing) | Teaching staff evaluation (post only) | Teaching staff attitude survey | Parent evaluation |
| Model (note a) | | | X | | X | | X | X | X | X |
| Adoption (note b) | | | X | | X | | X | X | X | X |
| Development (note c) | | | | | | | | | | |
| For family day care/preschool | X | X | X | | | | X | X | X | X |
| For grades K-6 | X | X | X | d/X | d/X | d/X | X | X | X | X |
| For grades 7-12 | X | X | X | X | X | X | X | X | X | X |

a/Projects developed and considered worthy enough to be disseminated to other local agencies.

b/Model projects that can be adopted or adapted by other local agencies.

c/Projects being developed (including materials) but not yet ready to be disseminated to other local agencies.

d/For grades 1 through 6 only.

Illinois

All seven regional education centers in Illinois served as the primary focal points for administering NET. In addition to carrying out a center's common functions, as discussed on page 47, six of the seven centers developed some nutrition education materials and awarded small grants to local education agencies to develop nutrition education materials. The seventh center concentrated on providing teacher and food service personnel inservice training.

In addition to yearly funding of the regional centers, the State education agency funded 25 special projects. Most were located in local education agencies. These special projects developed nutrition education materials and/or provided nutrition education activities for students, teachers, and food service personnel. According to a State education agency official, both 1978 and 1979 program funds became available about the same time. Because of this the State agency did not want the regional centers to increase their staffs to administer NET for a one-time increased funding level. Consequently, the State agency decided to bypass the centers and award funds directly to the local agencies.

NET activities at the State and regional center levels had been evaluated annually by a State agency staff member. The evaluation had not included data on participants' knowledge, attitudes, and/or behavioral changes. The evaluator had recommended improvements in program operations to the State NET coordinator.

The State NET coordinator said that some local projects had measured the program's effects on participants' knowledge, attitudes, and behavior. Also, according to the NET coordinator, in 1981 the State agency suggested that the local agencies participating in NET use the following for evaluations.

--A kindergarten through grade 6 achievement test developed by the National Dairy Council.

--A State-developed basis for evaluating the nutritional soundness of materials.

--A self-administered student knowledge checklist adapted from a Michigan dairy council instrument.

The NET coordinator said that it is against State agency policy to require local agencies to use these evaluation instruments.

New York

New York's NET program was administered through its regional centers and State NET staff. 1/ In addition to performing the center functions discussed on page 47, some centers also maintained nutrition education resource centers. Some of the information at the resource centers was obtained from the State education agency information/dissemination network that identified, acquired, and reviewed nutrition-related materials. The network was also linked to other State and national information disseminating systems, such as USDA's Food and Nutrition Information Center and Education's ERIC.

Most NET materials were developed by either State staff or Cornell University. These materials included:

--A sequential kindergarten through grade 12 nutrition education curriculum and teacher manuals.

--A preschool/kindergarten nutrition education learning package in English and Spanish.

--A kindergarten through grade 6 nutrition education resource kit to supplement the curriculum.

--A videotaped series for 8 to 13 year olds on nutrition practices and companion teacher's guide.

--A series of animated videotaped public service announcements on nutrition.

Some of these materials, however, had not been evaluated for their effect in changing participants' nutrition knowledge, attitudes, and/or behavior. However, the New York NET program had evaluated or contracted for the evaluation of several program components. For example, half of the videotaped series and the preschool-kindergarten learning package had been evaluated and the curricular resource kits were being evaluated in fiscal year 1981. In addition, some local education agencies voluntarily evaluated their projects' effects on participants' knowledge, attitudes, and/or behavior.

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1/For school year 1979-80, 16 of the 44 New York regional centers administered NET.

Texas

The Texas NET program had been primarily administered through the State's regional centers, 1/ local education agencies, the dairy council in Texas, and the Texas Department of Human Resources. These organizations did the following, among other things: (1) regional centers (in addition to the common functions discussed on p. 47) and some local agencies developed curricular and other nutrition education materials, (2) the Texas dairy council conducted teacher inservice training and provided teacher and student materials, and (3) the State Department of Human Resources administered the NET preschool program.

The State NET had not collected data on the program's effects on participants' knowledge, attitudes, and/or behavior. However, it had funded a joint local agency/regional center effort to develop student knowledge and attitude outcomes. (For example, one outcome was "describe the relationship among exercise, caloric intake, and body weight.") Based on these outcomes, the joint effort developed a pool of test items for grade 6 and high school students, and teacher standards.

According to an implementation guide, these teacher performance standards could be used for developing training programs for both teachers and food service personnel. As in Illinois, the State NET coordinator said that requiring local agencies to use specific tests was against State education agency policy. However, these tools were available for the local agencies that wanted to use them.

The State NET also funded two regional centers to develop student behavioral (e.g., food waste) measures. These regional efforts had not been completed as of June 1, 1981, but the State NET planned to make at least one of the measures available to the local education agencies when complete.

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1/The State has 20 regional centers. The number of centers administering NET in fiscal year 1978 was 12, but in fiscal years 1979 and 1980 all 20 centers participated in NET.

FEDERALLY FUNDED U.S. DEPARTMENT OF EDUCATION PROGRAMS WHICH CAN INCLUDE NUTRITION EDUCATION IN THE SCHOOLS

| Program | Authority | Program description/ objectives (note a) | Target group | Location (note b) | Program funding FY 1980 (note c) | Nutrition education data (note d) Expenditures FY 1980 | Number of students FY 1980 | Priority |
|---|---|---|---|---|---|---|---|---|
| ESEA Title I—Grants for the Disadvantaged, including Concentration Grants | Elementary and Secondary Education Act, as amended (20 USC 2722) | To raise the educational attainment of educationally deprived children in various subjects, especially the basic skills. | Educationally deprived children in local education agencies serving areas with concentrations of children from low-income families. | Nationwide | $2,733,326,343 | Unknown | Unknown | Low |
| | | | | California | 257,782,016 | Unknown | Unknown | None |
| | | | | Illinois | 117,135,558 | Unknown | Unknown | None |
| | | | | New York | 255,044,334 | Unknown | Unknown | None |
| | | | | Texas | 180,921,171 | Unknown | Unknown | Low |
| ESEA Title I—Neglected and Delinquent Children | Elementary and Secondary Education Act, as amended (20 USC 2781) | To support activities designed to meet the special educational needs of children in institutions for the neglected or delinquent or in adult correctional institutions. | Children in institutions for the neglected or delinquent or in adult correctional institutions. | Nationwide | 32,391,655 | Unknown | Unknown | Low |
| | | | | California | 2,576,356 | Unknown | Unknown | None |
| | | | | Illinois | 1,013,140 | Unknown | Unknown | None |
| | | | | New York | 3,700,243 | Unknown | Unknown | Low |
| | | | | Texas | 1,453,989 | Unknown | Unknown | Low |
| ESEA Title I—Handicapped Children | Elementary and Secondary Education Act, as amended (20 USC 2771) | To support activities designed to meet the special educational needs of handicapped children whose education is the responsibility of State agencies. | Handicapped children. | Nationwide | 145,000,000 | Unknown | Unknown | None |
| | | | | California | 2,789,014 | Unknown | Unknown | None |
| | | | | Illinois | 20,574,681 | Unknown | Unknown | Low |
| | | | | New York | 15,166,645 | Unknown | Unknown | Low |
| | | | | Texas | 7,668,723 | Unknown | Unknown | Low |
| ESEA Title I—Migrant Education Program | Elementary and Secondary Education Act, as amended (20 USC 2761) | To improve educational programs for children of migratory agricultural workers or fishermen. | Children of migratory agricultural workers or fishermen. | Nationwide | 245,000,000 | Unknown | Unknown | Medium |
| | | | | California | 54,023,314 | Unknown | Unknown | Low |
| | | | | Illinois | 1,711,464 | Unknown | Unknown | None |
| | | | | New York | 4,257,850 | Unknown | e/7,079 | Low |
| | | | | Texas | 63,151,850 | Unknown | Unknown | None |







APPENDIX VI

| Program | Authority | Program description/ objectives (note a) | Target group | Location (note b) | Program funding FY 1980 (note c) | Nutrition education data (note d) Expenditures FY 1980 | Number of students FY 1980 | Priority |
|---|---|---|---|---|---|---|---|---|
| ESEA Title IV-B—School Libraries and Instructional Resources | Elementary and Secondary Education Act, as amended (20 USC 1801) | To assist schools in acquiring school library resources, books, educational materials, and instructional equipment. | Elementary and secondary school students. | Nationwide | $171,000,000 | Unknown | Unknown | (f) |
| | | | | California | 16,102,164 | Unknown | Unknown | (f) |
| | | | | Illinois | 8,712,955 | Unknown | Unknown | (f) |
| | | | | New York | 13,363,032 | Unknown | Unknown | (f) |
| | | | | Texas | 10,158,891 | Unknown | Unknown | (f) |
| ESEA Title IV-C—Improvement in Local Educational Practices | Elementary and Secondary Education Act, as amended (20 USC 1801) | To strengthen the quality of elementary and secondary education through support of locally initiated projects and activities designed to improve educational practices. | Elementary and secondary school students. | Nationwide | g/197,400,000 | h/$404,336 | h/42,229 | None |
| | | | | California | g/17,986,952 | 142,360 | 2,914 | None |
| | | | | Illinois | g/9,700,883 | 76,549 | 2,208 | None |
| | | | | New York | g/14,984,495 | 54,303 | 600 | Low |
| | | | | Texas | g/11,445,192 | Unknown | Unknown | None |
| Vocational Education—Basic Grants | Vocational Education Act, as amended (20 USC 2330) | To extend, improve, and maintain existing vocational education programs and to develop new vocational programs. | All ages. | Nationwide | 562,266,000 | Unknown | j/291,646 | Unknown |
| | | | | California | 48,745,729 | Unknown | Unknown | Unknown |
| | | | | Illinois | 24,291,859 | Unknown | Unknown | Unknown |
| | | | | New York | 40,220,864 | Unknown | j/5,076 | Unknown |
| | | | | Texas | 34,075,318 | Unknown | Unknown | Unknown |
| Vocational Education—Consumer and Homemaking Education | Vocational Education Act, as amended (20 USC 2380) | To prepare individuals for the occupation of homemaking, including instruction dealing with food and nutrition. | All consumers. | Nationwide | 43,497,000 | Unknown | e,i/2,761,000 | High |
| | | | | California | 3,782,125 | Unknown | e,i/213,919 | Medium |
| | | | | Illinois | 1,884,777 | Unknown | e,i/45,864 | Medium |
| | | | | New York | 3,120,691 | Unknown | e,i/210,541 | High |
| | | | | Texas | 2,643,865 | Unknown | e,i/249,470 | Medium |







APPENDIX VI

| Program | Authority | Program description/ objectives (note a) | Target group | Location (note b) | Program funding FY 1980 (note c) | Nutrition education data (note d) Expenditures FY 1980 | Number of students FY 1980 | Priority |
|---|---|---|---|---|---|---|---|---|
| Adult Education | Adult Education Act, as amended (20 USC 1201) | To enable all adults to (1) acquire basic skills necessary to function in society, (2) continue their education to at least completion of secondary school, and (3) secure training to become more employable citizens. | Persons age 16 and above. | Nationwide | $100,000,000 | Unknown | Unknown | Low |
| | | | | California | 7,373,624 | Unknown | Unknown | None |
| | | | | Illinois | 5,009,881 | Unknown | Unknown | None |
| | | | | New York | 8,334,833 | Unknown | Unknown | Low |
| | | | | Texas | 5,500,870 | Unknown | Unknown | Medium |
| State Grants for the Handicapped, including Preschool Incentives | Education for All Handicapped Children Act, as amended (20 USC 1411 | To provide full educational opportunities to all handicapped children by increasing the quality and quantity of programs for handicapped children. | Handicapped persons age 3 to 21. | Nationwide | 899,500,000 | Unknown | Unknown | None |
| | | | | California | 81,787,000 | Unknown | Unknown | Low |
| | | | | Illinois | 51,689,000 | Unknown | Unknown | Low |
| | | | | New York | 46,395,000 | Unknown | Unknown | Low |
| | | | | Texas | 59,750,000 | Unknown | Unknown | Low |
| Centers and Services for Deaf-Blind Children | Education of the Handicapped Act, as amended (20 USC 1422) | To provide assistance to deaf-blind children so they can participate in society. | Deaf-blind persons from birth through age 21. | Nationwide | 16,000,000 | Unknown | Unknown | Medium |
| | | | | California | k/1,544,000 | Unknown | e,k/1,000 | Medium |
| | | | | Illinois | 382,000 | Unknown | Unknown | Low |
| | | | | New York | k/2,440,000 | Unknown | Unknown | Low |
| | | | | Texas | 782,000 | Unknown | Unknown | Medium |
| Handicapped Children's Early Education | Education of the Handicapped Act, as amended (20 USC 1423) | To provide comprehensive services for handicapped children through a wide range of educational, therapeutic, and coordinated services. | Handicapped children from birth through age 8. | Nationwide | 20,000,000 | Unknown | Unknown | Low |
| | | | | California | 1,599,000 | (1) | (1) | (1) |
| | | | | Illinois | 946,000 | (1) | (1) | (1) |
| | | | | New York | 995,000 | (1) | (1) | (1) |
| | | | | Texas | 802,000 | (1) | (1) | (1) |







APPENDIX VI

| Program | Authority | Program description/ objectives (note a) | Target group | Location (note b) | Program funding FY 1980 (note c) | Nutrition education data (note d) Expenditures FY 1980 | Number of students FY 1980 | Priority |
|---|---|---|---|---|---|---|---|---|
| Severely Handicapped Children and Youths | Education of the Handicapped Act, as amended (20 USC 1424) | To establish and promote effective and innovative practices in the education and training of severely handicapped children and youths. | Severely handicapped children from birth through age 21. | Nationwide | $ 5,000,000 | Unknown | Unknown | Low |
| | | | | California | 495,000 | (1) | (1) | (1) |
| | | | | Illinois | 601,000 | (1) | (1) | (1) |
| | | | | New York | 351,000 | (1) | (1) | (1) |
| | | | | Texas | 0 | (1) | (1) | (1) |
| Follow Through | Economic Opportunity Act, as amended (42 USC 2929) | To provide comprehensive services, including nutrition, to children who were previously enrolled in Head Start or similar programs which will sustain and augment the gains made in the prior program. | Children from low-income families from kindergarten through grade 3. | Nationwide | 44,250,000 | Unknown | e/63,000 | Unknown |
| | | | | California | 5,492,000 | (1) | (1) | (1) |
| | | | | Illinois | 1,837,000 | (1) | (1) | (1) |
| | | | | New York | 4,045,000 | (1) | (1) | (1) |
| | | | | Texas | 2,063,000 | (1) | (1) | (1) |
| Consumers' Education | Consumer Education Act of 1978 (20 USC 2981) | To establish, expand, and/or improve model community education programs in consumer education. | All consumers. | Nationwide | 3,617,000 | Unknown | Unknown | None |
| | | | | California | 639,816 | (1) | (1) | (1) |
| | | | | Illinois | 50,459 | (1) | (1) | (1) |
| | | | | New York | 706,143 | (1) | (1) | (1) |
| | | | | Texas | 45,703 | (1) | (1) | (1) |
| Educational Television Programing | Elementary and Secondary Education Act, as amended (20 USC 3201) | To develop, produce, and disseminate innovative educational television or radio programs designed to help children, youths, and adults to learn. | Children from kindergarten through grade 3. | Nationwide | 6,000,000 | m/$2,687,000 | 0 | None |
| | | | | California | 0 | 0 | 0 | (1) |
| | | | | Illinois | 0 | 0 | 0 | (1) |
| | | | | New York | 2,250,000 | 0 | 0 | (1) |
| | | | | Texas | 0 | 0 | 0 | (1) |





APPENDIX VI

a/This is a brief description and may not be all-inclusive.

b/We conducted our work at the Federal level and in these four States.

c/Funding for each program is the budget authority for fiscal year 1980.

d/Federal and State officials in each respective program provided this information.

e/All students in the program receive nutrition education.

f/Federal and State program officials could not respond to this because priorities are set by each local education agency.

g/Includes funds for strengthening State education agency management.

h/Based on 35 States supplying information on nutrition education activities.

i/This is fiscal year 1979 data for secondary school students only; fiscal year 1980 data was unavailable.

j/This data is for secondary students only.

k/Data reported for entire region in which the State is included, rather than for individual State.

l/State education agencies do not administer this program; funds go directly from Education to the grantee. The Department of Education does not ordinarily collect grantee data by State in this program.

m/The project dealing with nutrition education was not scheduled to air until 1981.







APPENDIX VI

FEDERALLY FUNDED U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES NUTRITION EDUCATION ACTIVITIES IN THE SCHOOLS

| Program | Authority | Program description/ objectives (note a) | Target group | Location (note b) | Program funding FY 1980 (note c) | Nutrition education data (note d) Expenditures FY 1980 | Number of students FY 1980 | Priority |
|---|---|---|---|---|---|---|---|---|
| Head Start | Economic Opportunity Act of 1964, as amended (42 USC 2928) | To provide preschool children with comprehensive health, nutritional, educational, social, and other services to help children attain their full potential. | Preschool children from low-income families. | Nationwide | $735,000,000 | Unknown | f/376,300 | High |
| | | | | California | 64,655,214 | (e) | f/25,998 | (e) |
| | | | | Illinois | 35,651,070 | (e) | f/19,365 | (e) |
| | | | | New York | 49,761,930 | (e) | f/16,632 | (e) |
| | | | | Texas | 28,940,195 | (e) | f/18,265 | (e) |

a/This is a brief description and may not be all-inclusive.

b/We conducted our work at the Federal level and in these four States.

c/Funding for this program is the budget authority for fiscal year 1980.

d/Federal officials provided this information.

e/State education agencies do not administer this program; funds go directly from the Department of Health and Human Services to the grantees. This data could not be obtained by State.

f/All students in this program receive nutrition education.







APPENDIX VII

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

March 24, 1982

Mr. Henry Eschwege, Director
Community and Economic Development
Division
United States General Accounting
Office
Washington, D.C. 20548

Dear Mr. Eschwege:

Thank you for the opportunity to comment on the General Accounting Office's (GAO) report to Congress, "Nutrition Education In The Schools Has Progressed But Improvements Are Needed." In general we agree with your characterization of nutrition education in schools. However, we question the appropriateness of the approach taken in this review.

Our major concern is the pervading theme of the report which supports federal intrusion into the State and local nutrition education curriculum process. The report's conclusions and recommendations are based on the assumption that USDA has primary responsibility to develop and provide to State agencies specific strategies, methodologies, materials and guidelines for implementing a uniformly structured Nutrition Education and Training Program (NET) nationwide. This viewpoint is inconsistent with NET authorizing legislation, Section 19 of the Child Nutrition Act of 1966, as amended. The wording of the legislation virtually assures that each State would have maximum flexibility in designing a program relevant to its needs, resources and priorities.

GAO's findings are more indicative of the State-of-the-Art in nutrition education than of USDA's performance in formulating and administering NET in accordance with the legislative mandate. It is generally recognized in the nutrition and education communities that the areas of curriculum development and evaluation must be improved in school based nutrition education programs. However, there is an ongoing debate as to whether the direction should come from the Federal, State or local level.

We share your view that nutrition education is essential during the period when dietary habits are being formed and that it provides great benefits in terms of health promotion and disease prevention. However, in cooperation with the Administration's efforts to control the Federal budget, we feel that the major responsibility for the continuation of nutrition education in schools must be returned to the State and local entities.

APPENDIX VIII



Regardless of the ultimate outcome of these difficult policy and budget debates, the outlook within USDA is still one that includes a commitment to food and human nutrition information, education and research. We believe that the initial Federal investment in NET has laid a foundation upon which the State and local entities can now build.

Sincerely,

Mary C. Jarratt

MARY C. JARRATT
Assistant Secretary for
Food and Consumer Services

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